THE FIFTY-FIRST YEAR.

Companion to the Almanac;

OR,

YEAR-BOOK

OF

GENERAL INFORMATION

FOR

1878.

PART I.

GENERAL INFORMATION ON SUBJECTS OF ASTRONOMY, OLD ENGLISH GUILDS, NATIONAL SPORTS AND PASTIMES, PROGRESS IN INDIA, THE SCHOOL BOARD SYSTEM, AND LABOURERS' AND ARTIZANS' DWELLINGS.

PART II.

ARCHITECTURE AND PUBLIC IMPROVEMENTS, SCIENCE, PAINTING, MUSIC, PHILANTHROPY, LEGISLATION, STATISTICS, AND CHRONICLE OF 1876-77.

LONDON:

PRINTED FOR

THE COMPANY OF STATIONERS,

AND SOLD BY J. GREENHILL, AT THEIR HALL, LUDGATE HILL.

PRICE TWO SHILLINGS AND SIXPENCE; OR, FOUR SHILLINGS BOUND WITH THE BRITISH ALMANAC.

HARRISON AND SONS,
PRINTERS IN ORDINARY TO HER MAJESTY,
ST. MARTIN'S LANE.

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GENERAL INFORMATION ON SUBJECTS OF ASTRONOMY, OLD ENGLISH GUILDS, NATIONAL SPORTS AND PASTIMES, PROGRESS IN INDIA, THE SCHOOL BOARD SYSTEM, AND ARTIZANS' DWELLINGS.

THE APPLICATION OF THE SPECTROSCOPE TO ASTRONOMY.

NOTWITHSTANDING the great advances which have been made during the last five-and-twenty years in almost every branch of physical research, nothing has attracted more general interest, or attracted that interest more worthily, than the birth and rapid development of Spectrum Analysis. Nor can this be regarded as surprising when the powers of the weapon with which it has armed the chemist and astronomer are borne in mind. Already it has revealed to the former five new elements, besides enabling him to detect the presence of suspected substances with a delicacy far exceeding that afforded by any other method; while the astronomer, whose profession has always been so rich in romantic discoveries, has obtained by its means trustworthy information where he seemed for ever doomed to ignorance, and the solution of problems that had hitherto completely baffled inquiry.

We owe the first steps, that led in the sequel to the formation of this new method of analysis, to Newton, who, in 1672, conducted a number of experiments on the effect which passage through a prism has upon sunlight. In one of these he admitted a beam of white light through a small round hole into a darkened chamber, and placing a prism in its path, allowed it to fall on a white screen. He then found that not only was the light bent out of its course by the prism, but that instead of forming a round white spot on the screen, it was spread out into

a long narrow strip, having all the colours of the rainbow. This strip he called the *solar spectrum*. The reason of the change he showed to be that sunlight is really made up of an infinite number of distinct rays, which, when all are combined together, produce upon us the impression which we call whiteness; but as each of these rays is differently affected by their passage through a prism, some being more, and some less bent out of their course by it, we are then able to see them separately, and to perceive that each ray possesses a distinct and peculiar tint.

Newton's experiments stood alone for more than a century, when the investigation into the dispersion of light was taken up in 1814, by Fraunhofer, a German optician of high repute. His first improvement on Newton's method of working was the substitution of a narrow slit for the round hole through which the light was admitted; for so long as a circular aperture was used, only an impure spectrum could be formed, as the different images of it necessarily overlapped. The next improvement was to view the spectrum thus formed by means of a small telescope. Under these circumstances, Fraunhofer noticed a great number of very narrow gaps or dark lines in the spectrum, showing that the sun does not send us light of every conceivable shade. He was not actually the first to discover this fact, for Wollaston, in 1802, had detected five of these lines, but had not followed the matter farther.

Far otherwise was it with the patient German. By repeated experiments he satisfied himself that these lines were visible, whatever the substance of which the prism was formed, and were invariable in their positions in the spectrum; he mapped no less than 576, and determined, with the utmost care, the wave-lengths of the most noticeable, which, for ease of reference, he distinguished by the letters of the alphabet. Next he turned his attention to other sources of light than the sun, and found that while all bodies which shine by reflected sunlight, as the moon and planets, or clouds in our own atmosphere, gave spectra exactly like that of the sun, the stars, on the other hand, yielded spectra differing considerably from it, and from each other. This was a most important point, proving that the cause of the lines, whatever it was, lay neither in our own atmosphere nor in general space, for then all the celestial bodies would have been affected alike, so that it was evident that their origin was to be sought in the neighbourhood of the sun and stars themselves.

Some of the lines, however, he found to be due to our atmosphere, for certain bands and lines that appeared distinct and dark in the spectrum of the sun when it was observed low down, as at sunrise or sunset, grew very faint or disappeared altogether when it was observed on the meridian.

Fraunhofer next experimented upon terrestrial sources of light, and found that the flame of a candle gave a spectrum absolutely continuous, *i.e.*, crossed by no dark lines; but he further noticed that in the orange-yellow there were a pair of *bright* lines close together, exactly coinciding with a pair of very dark lines, which he had called the D lines, in the solar spectrum. It was not reserved for him, by connecting these facts, to complete the structure his patient researches had founded, and thus become the sole discoverer of spectrum analysis; and a generation passed before the dark lines, which ever since Fraunhofer's day have borne his name, received their explanation.

In the meantime the attention of observers was directed to perfecting the spectroscope, and the examination of the spectra given by artificial sources of light. Fraunhofer's spectroscope had consisted, as we have seen, of a narrow slit, a prism, and a small telescope. A great improvement was effected by the introduction of a collimating lens between the slit and the prism, by which the rays diverging from the slit were rendered parallel. Then instead of one prism, trains of two, five, ten, or even more prisms, and these of much greater power, have been constructed, and in some instruments the light passes through the train twice, so as to double the dispersion.

The inspection of numerous artificial spectra failed for a long while to show any resembling the solar spectrum in character. The light from very highly heated *solid* bodies gave spectra that were perfectly continuous, uninterrupted by any bright or dark lines. But the glowing *vapours* of the different elements, whether in the flame of a spirit lamp or Bunsen burner, or as heated by the electric spark, gave discontinuous spectra, showing bright lines or bands with dark spaces between them, and as these lines or bands were ascertained to be constant in position and intensity for any given element, it became possible, by volatilising any substance, to tell from the bright lines it yielded, the elements that it contained. Thus the bright double line in the yellow, mentioned as given by a candle flame, was proved by Swan to show the presence of sodium, and so delicate is this new method of analysis that even $\frac{1}{200000000}$ of a grain of salt

can be detected by its means. In 1832 Sir D. Brewster discovered a third kind of spectrum; for trying what effect would be produced by viewing sunlight through the thick vapour of nitrous gas, he found that a number of new dark lines appeared in the solar spectrum, chiefly in the violet; and that further, when the light from an incandescent solid was viewed through these vapours that its spectrum also was crossed by these same new dark lines; that, in short, these dark lines appeared whatever was the source of light looked at through nitrous oxide vapour. This was the beginning of many researches into the character of absorption spectra, but for a while the facts elicited seemed very discordant.

In 1849 M. Foucault succeeded in obtaining the two D lines in an absorption spectrum. The electric arc gives the two sodium lines, sodium being so omnipresent a substance, that it is not easy to get a spectrum without them. Now, Foucault had noticed that when he looked at the sun through the arc, the D lines seemed darker than usual; so to ascertain if this darkening was really due to the electric arc, he reflected the brilliant light from the carbon points, between which the spark was taken through it, and found the dark D lines appear at once. So that, when he looked at the carbon point alone, he saw a perfectly continuous spectrum, when he looked at the arc alone he saw the two *bright* lines of sodium, but when he looked at the carbon point through the arc, the continuous spectrum of the former was broken by two *dark* lines occupying exactly the place of the two bright lines of the electric arc.

In the following year, W. H. Miller having proved the perfect coincidence of the D lines with the two sodium lines, Stokes explained that a vapour capable, when strongly heated, of giving out certain rays of light, is also capable of absorbing the same rays of light and none other, when used as an absorbing medium; therefore sodium vapour ought to be, as Foucault found it was, opaque to the light corresponding to the two yellow lines of its spectrum; and the dark D lines in the sun or elsewhere were proof of an absorption exercised by this substance.

For some years no further progress was made, nor was any very general notice taken of this important discovery, until Dr. Kirchhoff in 1859, ignorant of Stokes's explanation, arrived at the same result from a series of most conclusive experiments. Like Foucault and Miller, he began with the D lines and a sodium flame, and having satisfied himself that sodium was really the

cause of those two dark lines, he went on to try to account for others by the application of the new principle; but instead of so simple a spectrum as that of sodium, he took that of iron, which contains several hundred lines. Arranging his spectroscope so as to have the two spectra the one above the other, he found that every bright line in the spectrum of iron found its continuation in a dark line in that of the sun, and not only so, but that double line was continued by double line, strong by strong, faint by faint.

It was impossible to resist the effect of such evidence, and it is now universally held that the body of the sun is in such a condition as to give a perfectly continuous spectrum, and that this "photosphere," as it is termed, is surrounded by an atmosphere of cooler vapours, themselves capable of giving spectra consisting of bright lines, and therefore of causing corresponding dark lines in the sun's spectrum by their absorption.

It is important to bear in mind that although the law of exchanges lays down that "Every substance which emits at a certain temperature certain kinds of light, must possess the power at that same temperature of absorbing the same kinds of light," yet it is by no means necessary that dark lines should be the result of that absorption. For as the absorbing body is giving out light of the very same quality as that which it absorbs, it is plain that if it be in such a condition as to give out just as much light as it intercepts, it will produce no effect at all; if it give out more light it will cause bright lines to appear on the background of the continuous spectrum, and only if it give out less will it cause dark lines. So that if the temperature of the absorbing vapour were gradually raised, we might have lines very dark at first, then gradually growing fainter till they disappeared, then faint bright lines appearing in their place growing brighter and brighter as the heat of the vapour was increased.

Kirchhoff continued his researches into the origin of the solar lines until he had accounted for nearly all the more prominent, and had identified some fourteen elements as existing in the solar atmosphere. Besides iron and sodium, hydrogen, barium, calcium, magnesium, aluminium, cobalt, nickel, chromium manganese, copper, zinc, and titanium, have been detected. Several metals have two or three lines coincident with lines in the solar spectrum, but as their other lines are not represented, they cannot safely be assumed to be present. On the other hand, the absence of corresponding dark lines does not prove that the element does not exist in the sun; for it may be so heavy as not to rise above

the level of the photosphere which gives the continuous spectrum. Or it may be, and it actually is so in one instance, at so high a temperature as to give out as much light as it absorbs, and so give no sign of its presence. Quite recently Dr. Draper thinks he has obtained evidence of faint bright lines corresponding to those of oxygen and nitrogen; but until this, since no dark lines were seen to correspond to the bright lines of these elements, it has been held that there was no trace of their presence.

The determination of the lines due to the absorption of our own atmosphere has occupied the attention of several observers. Brewster and Gladstone in 1860 published a very detailed and accurate map, and Angström, Secchi, and Janssen have also undertaken the same work. The latter in 1864 remained a week on the summit of the Faulhorn, in Switzerland, and examined from thence the light from a large wood fire at Geneva, 13 miles distant, and found in its spectrum many of the dark lines which are seen in that of the sun when it is low down, although none were seen when it was examined close at hand. He also found that from that elevation, 9,000 feet, the atmospheric lines in the solar spectrum were much fainter than when it was observed from the plain. Two years later he was enabled to prove that aqueous vapour was the cause of many of these telluric lines, as they are called, for, having constructed an apparatus by which the light from 16 gas-burners was made to pass through 118 feet of steam, he found that the steam caused groups of lines to appear in the otherwise continuous spectrum, which were coincident with some of those in the spectrum of the setting sun.

At the same time that Kirchhoff was making his careful comparisons between the solar and metallic spectra, he was engaged in another work of equal importance, viz., the mapping of the solar spectrum. This he effected in a series of charts, completed by his assistant, Hofmann, which are so exact that the fainter lines are as commonly distinguished by their numbers on Kirchhoff's scale as the more marked by the letters given by Fraunhofer. Angström, of Upsala, has also mapped the spectrum, and though he has delineated far fewer lines than Kirchhoff, in one respect his work is the more valuable, as the places of the lines are laid down according to their wave-lengths. As the principal dark lines are constantly being referred to, it will be well to roughly describe their position.

The spectrum begins at the red end with a broad, dark cluster

of lines, growing darker the further they are from the extreme red, called by Fraunhofer group A. Group *a* follows after a short interval, and after another short interval group B, similar in character to A, but much less broad. C is a narrow line, where the red is of a less brownish hue than is the part just described, and is due to hydrogen; the two D lines in the orange-yellow are the next noteworthy lines; as already stated, they are due to sodium. A wide space with few prominent lines brings us to the E group, a cluster of several double lines, the darkest due to iron; and these are followed closely by a remarkable group of four lines called *b*, of which all but the third, the faintest, are due to magnesium. This is in the heart of the green. Just where the green begins to have a perceptibly blue tinge is F, the second line of hydrogen. A long space filled with many narrow, but very few remarkable lines, intervenes before the third hydrogen line, which is in the violet, at 2796 of Kirchhoff's scale, is reached; close to which is G, a very broad dark band, the chief line being due to calcium. The spectrum is now very full of dark bands and lines, until two shaded bands occur in the extreme violet, called H_1 and H_2, both ascribed to calcium. The fourth hydrogen line is about half-way between G and H, and is known as *h*.

Photography has proved an important ally of spectroscopy in this work. The toil of mapping the solar spectrum is exceedingly great, and even Kirchhoff's magnificent drawings leave out a number of lines that a fairly good instrument will show. But the sensitive plate in a few moments yields an accurate representation of the lines, their intensity and breadth being as perfectly marked as their position. A great drawback to the employment of this agent lay for a long while in the insensitiveness of silver salts to the action of the red, green, and yellow rays, but in 1873, Prof. Vogel discovered that certain substances, when added to bromide of silver, changed the character of its sensitiveness, so that Captain Waterhouse, who has followed up this discovery, has actually obtained the maximum of photographic action in the yellow, a colour formerly regarded as quite non-actinic, by the addition of *eosin* to the collodion. Carey-Lea, Captain Abney, and some other distinguished photographers, have taken up the subject with great energy, although by no means endorsing Vogel's theories; and Abney has even succeeded in obtaining an image of the invisible portion of the spectrum beyond the red. Thus, with the ultra-violet rays which readily

act on the silver salts, photographs, of double the extent of the spectrum visible to the eye, have been obtained. The spectra of different elements have also been photographed, this being a very ready way of comparing them with that of the sun ; and it was in this way that Draper was enabled to detect that the lines of oxygen and nitrogen appear to correspond to bright portions of the solar spectrum.

One of the latest applications of photography to spectroscopy promises to be of great importance. Huggins has recently succeeded in photographing the spectrum of Vega, and finds in it, besides several other lines, one, and one only, of the H lines. But both the H lines in the sun are believed to be due to the same element, calcium. Chemists have been for some time doubtful whether calcium, as we know it, is really an element, and this fact would seem to lend additional force to the doubt. Should further investigation confirm this, it may surely be regarded as one of the most romantic results of spectroscopy that we should obtain information respecting a terrestrial element from an almost infinitely distant orb.

The examination of the surface of the sun as a whole had carried us thus far ; astronomers now asked if the spectroscope had anything to reveal with regard to the details of its surface. For the telescope shows us that the sun's surface is by no means uniform, but it is broken by spots, stippled with pores and minute markings, and especially on the limb, marked with brilliant faculæ, surpassing even the ordinary surface in their brightness. Again, in total eclipses, we see strange appendages round the concealed luminary, the rosy-hued fantastic prominences, and that mysterious silvery halo, the corona.

Dark as a sun-spot seems when contrasted with the "glory that excelleth" of the general disc, yet it has been satisfactorily proved that even from the blackest nucleus we receive more light by far, surface for surface, than from the moon when full. Its spectrum, therefore, can be easily examined. In its main features it does not differ from the spectrum of the general disc, except that it is much fainter, as might be expected. But in its details, and especially if the spot be large, are differences eloquent in their significance, for many of the individual dark lines are much altered in appearance. Some are much *broader* than usual, particularly those of the heavier metals, as iron, &c., indeed, sometimes the majority of the lines will show a perceptible increase in breadth. They are often also darker, showing, as we

have seen, that the gases causing them are cooler than usual. But sometimes the very opposite is the case, and certain lines, particularly those of hydrogen and sodium, are seen *reversed*, *i.e.*, bright instead of dark, or it may be that they simply disappear, either change, but especially the reversal, showing a great increase on the ordinary temperature. And occasionally (and this is perhaps the most remarkable change of all) some of the dark lines, especially the F line due to hydrogen, lose all resemblance in shape to the slit of which they should form an image, but are broken, twisted, bent, and fringed in the most singular manner. Not unfrequently the F line has been seen doubly displaced, one half being dark, and bent towards the red, and the other bright, and displaced towards the violet. Lastly, the lines of some metals, not usually seen, appear, showing that these exist in the sun, but that they are usually below the level of the photosphere. Fr. Secchi has also noticed some of those atmospheric bands which Janssen showed to be due to water vapour in the spectrum of a spot, when they could not be seen in that of the general disc, and asserts that this is by no means an exceptional case.

The explanation of the broadening of a line was soon afforded by repeated laboratory experiments, the indispensable accompaniment of spectroscopic research, and was found to be due to an increase of pressure; that causing a *symmetrical* widening of the lines of the spectrum. But the expansion of a line on one side only, or its displacement, is due to another cause, which may be thus explained. The refrangibility of any ray of light depends on its velocity. But it is plain that the apparent velocity with which the undulations of light reach an observer will be affected by his moving either towards or away from the source of light; just as the rate at which two people approach each other in a street will depend not only on the rate with which the faster walker is moving, but also on whether the other one is coming to meet the first, or standing still, or moving away from him. So that the refrangibility of any ray of light would be altered, and increased, since the greater the velocity, the greater also the refrangibility, if an observer and his spectroscope could be rapidly approaching the sun or other source of light. But it is plain that just the same effect will be produced, if the source of light, instead of the observer, be in rapid motion. The displacement of a line, therefore, in the spectrum, is held to be evidence that the substance causing it is in rapid movement, either towards or from the observer, according to the direction of the displacement.

It will be noticed that this supplies a very important gap in our information. The telescope could tell us of any *lateral* movements in sun-spots, or faculæ, or of stars, but until the spectroscope thus supplemented its work, we could know little or nothing of movements in the line of sight.

This discovery has been put to an ingenious use by Zöllner, and much more recently by Langley. In consequence of the rotation of the sun on its axis, one limb is constantly approaching us, whilst the other is receding. The lines in the spectra of the east and west limbs are therefore displaced as regards each other. The amount of this displacement has been measured by Young, Christie of Greenwich, and others, with results closely according, on the whole, with the rotation-period obtained from observations of sun-spots. But such lines as are due to the absorption of our own atmosphere will of course suffer no displacement. Professor Langley therefore brings the images of the two limbs side by side on the slit, and can then detect at a glance what lines suffer displacement, and therefore belong wholly to the sun, and what are unaltered in position, and therefore are due to our own atmosphere.

Faculæ give spectra which differ from that of the general disc in just the opposite manner to those of spots. The spectrum is brighter, many lines are thinner, and not a few, especially of the heavier metals, are wanting. These facts warrant the conclusion that spots are depressions below the general surface, and therefore viewed through a greater depth of absorbing atmosphere, that they are filled with vapours of greater density than those of the ordinary envelope, and the seats of rapid and violent movements, many vapours rushing down into their depths with great velocities, while others, generally more highly heated, are as frequently hurled forth at equal or even greater speed. Faculæ, on the other hand, are supposed to be elevations, which appear more brilliant, because seen through less depths of atmosphere, and which often rise above the level occupied by the vapours of the heavier metals. In short, the faculæ are the mountain-waves, and the spots the whirlpools of that vast shoreless fiery sea.

The "red flames" seen in a total eclipse were not examined so early as the spots or faculæ, for it was not until the great eclipse of 1868 that the spectroscope, at the suggestion of Colonel Tennant, was brought to bear upon them. The first glance revealed observers that their spectrum was composed of a few bright

lines, indicating that they were composed of glowing gas. But M. Janssen, who was one of the observers, went further, and was able to identify two of them as coincident with two of the lines of hydrogen. Nor was this all, for struck with the great brilliancy of the lines, he resolved to attempt to see them when the sun was no longer eclipsed, and as soon as an opportunity occurred, he tried the experiment with most complete success.

This was a most important advance, for now there was no longer need to wait for good total eclipses which are

"Like angels' visits, brief and far between,"

but a detailed examination of the sun's limb could be made day by day, and much learnt that in the hurry of an eclipse must inevitably escape observation.

That the prominences are not ordinarily visible to us is owing to the powerful illumination with which the sun lights our air. But as this atmospheric glare yields a continuous spectrum, its intensity may be weakened by using a high dispersive power, and so making the spectrum very long. The spectrum of the prominences is not weakened in the same proportion, for as it consists only of a few bright lines, the only effect of the increased dispersion is to render the distance between them greater, the lines themselves being almost unaffected. So that, with a very powerful spectroscope, it is even possible to open the slit wide enough to see the actual shape of a prominence without admitting enough light from the atmospheric glare to obliterate its details.

The more constant attention which could now be devoted to the solar prominences soon showed that the sun was entirely surrounded by a shallow envelope, averaging some 10″ or 15″ in depth, of the same nature as the prominences to which the name of "chromosphere" has been given. Usually it shows only the five lines of the prominences, but the constant and patient observations of Young and others are continually adding to the list, so that the principal lines of sodium, magnesium, and iron, and many other of the elements recognised in the solar spectrum, have been noticed at one time or another; it may therefore be assumed that the vapours of the chromosphere are the chief cause of the dark lines of the general solar spectrum. The overpowering light of the sun makes it impossible to examine the lowest stratum of the chromosphere under ordinary circumstances, but in a total eclipse it is visible for one brief moment; and those observers who have been fortunate enough to catch a

glimpse of its spectrum at this time report that it shows most, if not all, of the Fraunhofer lines, bright on a dark ground. And on one occasion Lockyer, examining a great solar eruption, noticed hundreds of them thus reversed.

Of the five principal prominence lines, four are due to hydrogen, and have well marked dark lines in the solar spectrum corresponding to them, but the fifth is, strange to say, not usually seen dark against the disc, and this one is almost the most brilliant. It is a yellow line close to the two D lines of sodium, and hence called D_3. It is not to be found in any known spectrum of any terrestrial element, but would appear to belong to some gas almost as light as hydrogen, since, unlike the great majority of the chromospheric lines which cling close to the sun's limb, and hence are only to be observed with difficulty, it rises in the prominences to a height equal, or nearly equal, to the hydrogen lines. It may, therefore, indicate an element as yet unknown to us, and some have even applied the name *helium* to the hypothetical substance; but the practice of accounting for all, as yet, unclassified lines by assuming new elements, can only be condemned as unscientific, although in this particular case the reasons to justify such a course are stronger than usual.

Since Janssen's discovery, made independently by Lockyer before Janssen's report reached England, the Italian spectroscopists, Respighi, Secchi, and Tacchini have examined the sun's limb on every day that the weather has permitted, and sketched the prominences they saw there. Their labours have proved that prominences are at their maximum at the same time as sun-spots and faculæ, and that they decline in height and area as these do; but that they occupy the zones where faculæ are most numerous rather than those where spots are seen, showing their connection rather with the former than the latter class of phenomena.

An examination of the sun's limb at a period of great activity, with a sufficiently powerful instrument, is an extremely interesting occupation. Strange weird forms flit past, of fiery red, golden yellow, or soft blue, according to the line on which the spectroscope is adjusted; fleecy clouds, branching trees, thin jets, curling as they rise like cottage smoke on a still summer evening, or terrific conflagrations broken with violent explosions meet the eye.

> "Sometime, we see a cloud that's dragonish;
> A vapour, sometime, like a bear, or lion,
> A tower'd citadel, a pendant rock,
> A forked mountain, or blue promontory
> With trees upon't, that nod unto the world,
> And mock our eyes with air."

At the present time, however, the sun is in a state of the most profound tranquillity; the chromosphere is shallow and gently undulating, and the few prominences that rise from it, usually ascend in a right line for a minute or so of arc, and then gently spread out in a feathery head. It is worth noticing, as showing the scale of solar eruptions, that even such comparatively insignificant jets as these are from 25,000 to 30,000 miles in height, while on one or two occasions prominences have been observed as much as six times even this enormous height. Nor are the velocities of these eruptions less stupendous than their extent. Forty miles a second is not an unusual rate for the horizontal movements in a solar cyclone, while the upward velocity in an eruption is often three times as great, and Professor Young once witnessed huge volumes of gas shot forth more than 100,000 miles in ten minutes, representing an initial velocity of perhaps 350 miles *per second!*

The corona has proved a much more complicated problem than the prominences, and it is certain that its complete solution is not reserved for the spectroscope alone. The discussion of the entire evidence concerning it therefore lies beyond the scope of the present paper. It is sufficient to say that the spectroscope points to a double nature ; part being due to glowing gas indicated by a spectrum of bright lines, the principal line being a green one, 1474 on Kirchhoff's scale, at one time believed to be coincident with an iron line, but now proved to be only very close to it; and part to reflected sunlight, a vast collection of meteorites in the immediate neighbourhood of the sun being most generally supposed to be the reflecting bodies. On one occasion Professor Young observed three bright lines in the spectrum of the corona, which have also been observed in the spectra of the aurora, and of the zodiacal light. Angström also observed one of these lines, not only in the aurora and zodiacal light, but also from a phosphorescent sky. These remarkable coincidences excite the hope that we here possess one end of the clue, which diligently followed up, may one day reveal the true origin and character of these mysterious phenomena thus so strangely linked together.

To pass from the examination of the dazzling orb of day to that of the infinitely distant stars introduces, as might well be imagined, many difficulties in the way of the spectroscopist, for not only is the star's light weakened by being spread out into a long spectrum, but it has to be still further enfeebled by the use

of a cylindrical lens, which makes its image on the list a line instead of a point; otherwise, since a star has no appreciable diameter, the spectrum would be simply a narrow thread of light in which no lines or bands could be detected.

As already stated, Fraunhofer, in the earliest dawn of spectrum analysis, had ascertained that the stars give spectra crossed by dark lines, which are different in number, character, and position in different stars. Secchi has made it his work to classify the various stellar spectra, and for that purpose has examined many hundred stars. As the result of his inquiries he divides them into four classes, as follows:—(I) Stars with continuous spectra crossed by four very broad dark lines, due to hydrogen. Stars of this class are white or bluish in colour, and some of the most brilliant leaders of the constellations, such as Sirius, Vega, Procyon, &c., are ranked in this order. (II) Stars resembling our sun, in that the hydrogen lines are only moderately broad, and that the entire spectrum is full of fine lines. The lines of sodium, magnesium, and iron are generally very distinct in this class, which comprises the yellow stars. Arcturus and Capella are the two brightest examples. The great majority of the stars visible to the unassisted eye belong to one or other of these two classes, the first being the most largely represented. (III) Stars that have their spectra crossed by a number of shaded bands, which are intensely black and sharp on the side nearer the violet end of the spectrum, and which gradually fade away towards the red end. The hydrogen lines are either very faint or altogether absent in these stars, which are mostly orange or reddish-orange in tint. Their spectra are very attractive objects, the beauty of the regular sequence of the prismatic colours, always so pleasing, being enhanced by the regular alternation of light and darkness, the transition being in turns abrupt and exceedingly gradual. *α* Herculis, the type of the class, is one of the most perfect examples. *α* Orionis is to some degree intermediate between the second and third classes, for it shows fine dark lines like those we see in the sun, as well as the shaded bands. Most of the stars of this type are variable. (IV) The small red stars, which show three bands of light, the brightness of each band increasing towards the violet.

These remarkable differences seem to indicate a difference in the comparative age of the stars of the various types. Thus, the first class may be considered as consisting of those stars

which, from their vast size or recent formation, have as yet cooled but slightly, so that hydrogen gas is nearly the only absorbent in their atmospheres. A star that had cooled further would have more and more gases in its atmosphere, in a condition to give rise to dark lines. As it cooled still further, various compounds might be formed which were unable to exist, so long as the temperature was high enough to produce dissociation, and these might give rise to the shaded bands of the third type. It is noteworthy that our sun, which usually resembles stars of the second type in its spectrum, has not only been proved to resemble those of the third, in being slightly variable in brightness (according as the sun-spots are large and numerous, or few and small), but that traces of the shaded bands which are so marked a feature of the class, have been observed by Young in the spectrum of a sun-spot.

A fifth class of stars, more interesting in one respect that any of the foregoing, comprises those that show *bright* lines in their spectra. Several stars, as γ Cassiopeiæ and η Argûs, show the red and blue lines of hydrogen bright continually, and the latter has a bright yellow line in its spectrum, probably coincident with the prominence line D_3. But since the spectroscope has become a recognised weapon of astronomical research, on two occasions, stars either very faint or quite invisible, have suddenly attained the brilliancy of a second or third magnitude star. The first case was that of T Coronæ, in May, 1866, which was all at once observed to be as bright as Alphecca, the leader of the constellation, whereas it had previously been ranked only as a ninth magnitude star. It did not retain this pre-eminence long, but fortunately, before it had greatly decreased in brilliancy, Dr. Huggins was able to examine it, and found that the two bright lines in its spectrum were due to hydrogen, and as these died away as the star became fainter, it was evident that a violent outburst of highly heated hydrogen had been the cause of its ephemeral splendour. The other instance occurred in November, 1876, when a star, in the constellation of the Swan, previously unknown, in like manner appeared suddenly as a third magnitude star, but in this case an even more remarkable result was obtained, for M. Cornu observed in its spectrum, not only the bright lines of hydrogen, but also, as nearly as could be determined, D_3 and the *coronal lines*. But the most extraordinary revelation was yet to follow. On the 3rd of September last, when it had faded down below the tenth magnitude, its spectrum

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was again examined by Dr. Copeland of Lord Lindsay's observatory at Dun Echt, and it was found that the continuous spectrum, the bright lines, all had vanished except one green line, coincident, there is little doubt, with the line that is the principal feature of the spectra of the gaseous nebulæ.

The elements that have been identified as present in various stars are, for the most part, those most easily recognised in the solar spectrum. Hydrogen, sodium, magnesium, and iron are found in nearly all the brighter stars of the first two types. Huggins and Miller have examined in detail nearly 100 stars, laboriously comparing their spectra with those of different elements, in the same manner that Kirchhoff did in the case of the sun. On the whole, the results they have obtained tend, as in the case of the sun, to show that the same elements enter into the constitution of all the heavenly bodies. As a rule, though with one or two remarkable exceptions—lithium may be mentioned as an example—the elements of whose presence in sun or stars there is no direct evidence, are just those that the spectroscope might be expected to fail to show.

Huggins has taken up a further investigation with regard to stellar spectra even more difficult and laborious than the work just mentioned, viz., the determination of the measurement of stars in the line of sight by the measurement of the displacement of lines in their spectra. Some idea of the difficulty of this work will be obtained when it is mentioned that a movement of a star at a rate equal to that of the earth in its orbit will only cause a displacement of one-tenth the distance that the two D lines are apart, so that a spectroscope that was not sufficiently powerful to measure a fiftieth of that distance would not be available for the work. A very powerful telescope is likewise a requisite, else the feeble light of the star, when spread out into so long a spectrum, becomes too faint to work with. Then a narrow slit must be used, reducing the light still further, a perfect driving-clock is needed for the equatorial, while the spectroscope must be in most complete adjustment, or a fictitious appearance of displacement may be caused. These difficulties have been so thoroughly overcome by Huggins, and at Greenwich Observatory where the same work has recently been undertaken, that some forty stars have been attempted, and fully five-and-twenty of these with considerable success, the results obtained at the two observatories agreeing very fairly.

It is decidedly too early in the inquiry for the problem of the

sun's path in space to obtain much aid by this means; it can only be noted that the theory that the solar system is travelling towards the neighbourhood of α Herculis receives some confirmation, for the majority of the stars observed in that portion of the heavens are seen to be approaching us, while most of those in the opposite hemisphere are found to be receding.

A very interesting result of some of Huggins' measures has been pointed out by Proctor. Of the seven stars that form the well-known constellation of the Plough, five, all but α and η, the first and last, were known to have a common proper motion in the direction at right angles to the line of sight; the spectroscope has now supplemented this information by showing that they have also a common proper motion away from us; when, in addition to this, it is remembered that they are all of the same type of spectrum, it can hardly be doubted that they form together one magnificent system, moving in companionship through the endless fields of space.

There remain yet four classes of heavenly bodies about which the spectroscope has been able to reveal at least something. These are the planets, comets, and meteors, members of our own system, and the so long mysterious nebulæ. Of these last, it is sufficient to say that Huggins has found them to give in some cases spectra consisting only of bright lines, thus showing them to consist of glowing gas, and not merely of stars too close together and too distant to be separated by the telescope. The brightest line is apparently coincident with one of nitrogen, but in the absence of any trace of other nitrogen lines it would be rash to ascribe it to that element. The next brightest has not yet been identified with a prominent line of any spectrum, but the other two clearly indicate the presence of hydrogen.

Two classes of cometic spectra have been noticed, both consisting of three bright bands, in the more ordinary case agreeing in position and appearance with the three principal bands given by olefiant gas, thus proving the presence of carbon, but in the other case the cause has not yet been satisfactorily determined. It is not unusual to find the nucleus give a continuous spectrum, due probably to reflected sunlight.

The examination of the spectra of the moon and planets is attended with special difficulties, for these do not shine by their own light, but merely reflect that of the sun. Hence all that can be ascertained is whether or no this light is modified by the planet's atmosphere. With regard to the moon, the evidence is

entirely negative, while the observation of an occultation by Huggins goes far to prove the absence of any appreciable atmosphere around our satellite. Venus and Mars, but especially the latter, give traces of absorption due to aqueous vapour, and the same has been noticed with Jupiter and Saturn, which also show a band not seen in the solar spectrum, and unknown to our atmosphere. Uranus shows the same band with several others, some of which are also not to be found in the solar spectrum. Neptune, from its faintness, is a very difficult object to observe, but so far as can be ascertained, it shows three or four bands apparently coincident with the darkest seen in the spectrum of Uranus. These facts, combined with the results of telescopic observation, and their low specific gravity, confirm the theory that the four giant planets are largely in a vaporous condition, possibly still giving out a fair amount of light and heat of their own for the benefit of their attendant systems.

From the rapid movements and evanescent character of meteors, to subject them to spectrum analysis seems at first sight to savour of the impossible. Nevertheless Browning, A. S. Herschel, Secchi, and others have so far succeeded as to identify sodium and magnesium as being present in these bodies. Since, however, they frequently give continuous spectra, especially from the heads, it is reasonable to suppose that the heat to which they are subjected by the rapid passage through our atmosphere, though sufficient to volatilise such elements as sodium and magnesium, is insufficient to do more than raise to a white heat the more stubborn metals which compose the main body of the meteorites.

Such are a few of the fruits that have sprung out of the patience and perseverance of Fraunhofer when he set himself the task of extracting the secret of the dark lines of the spectrum. Brief and imperfect as is this little sketch of the development of spectrum analysis, yet it suffices to show the exceeding importance of the assistance it has given to the progress of astronomy within so short a period as seventeen years; and to afford grounds for anticipating that like skill and patience to Fraunhofer's will yield a still richer harvest in the future.

E. W. Maunder.

PLANETARY RESEARCH AND DISCOVERY.*

PLANETARY research and discovery have not failed to continue during the past year. Our list on page 18 of the "Companion" for 1877 contained all the small planets which had been discovered during 1875 and 1876; but six of these had, at the time of publication, received no names. We therefore repeat the list here with the completed nomenclature, and add the planets which have been detected in 1877. These are seven in number, and their addition raises the total number of the known small planets to one hundred and seventy-six.

But a more important and unique discovery distinguished the year now numbered with the past. No new satellite had been added to the system since Hyperion, the eighth satellite of Saturn, was discovered in 1848 by Mr. Lassell and Professor Bond. Excellent series of observations have been made during the last two or three years, with the splendid refractor, 26 inches in diameter (the largest at present in use in the world), at Washington, of the four satellites of Uranus, and the single known satellite of Neptune; but though the probability of there being other moons of those distant planets must continue, they would seem to be too small or too faint to reveal themselves even to optical means of such power as this. That glass, however, has brought to our knowledge the existence of two minute satellites of the planet Mars, hitherto supposed to be moonless. Guesses from analogy, particularly as Mars is exterior to the Earth, which has an attendant orb to rule the night, and add a beauty of its own to many a moonlight scene, had indeed been frequently made that some such body or bodies circulated round our ruddy neighbouring planet; but no one even suspected that he had actually seen one (as has been more than once conjectured, but never proved, in the case of Venus), till August, 1877. About that time, Mars was nearer to us than he had been for many years, being in perihelion on the 21st, and in opposition to the Sun on the 5th of September; the Earth being also of course in aphelion early in July, only six weeks before the perihelion passage of Mars. On the night of the 11th of August, Professor Asaph Hall observed a small star near Mars, which he (as well as Professor Newcomb, to whom he communicated his observations) suspected to be in motion round it. Proof of this, however, was not obtained until the 16th, on which night it was observed through an interval of two hours, and its true character as a satellite satisfactorily established.

* Supplementary to the Article in the "Companion" for 1877.

On the following night, August 17th, another attendant star was discovered, also by Professor Hall, and ascertained to be a satellite nearer Mars than the other. After this these interesting discoveries were announced to the world, and the satellites observed, particularly the outer one, by those astronomers who were in possession of optical means sufficiently powerful to see them. They have been determined to revolve round Mars in periods of about 7½ and 30¼ hours respectively, and must be exceedingly small bodies, probably less than ten miles in diameter.

It will be noticed that the period of the inner one is considerably less than that of the rotation of the planet on its axis, which amounts to about 24 hours 37 minutes; a curious consequence of which is that the satellite, as seen from Mars, must, contrary to the analogy of everything we see around us, appear to rise in the west and set in the east.

The following is the list referred to of the small planets discovered in 1875, 1876, and 1877 :—

No.	Name.	Name of Discoverer.	Date of Discovery.
			1875.
141	Lumen	Paul Henry	January 13.
142	Polana	Palisa	January 28.
143	Adria	Palisa	February 23.
144	Vibilia	Peters	June 3.
145	Adeona	Peters	June 3.
146	Lucina	Borelly	June 8.
147	Protogeneia	Schulhof	July 10.
148	Gallia	Prosper Henry	August 7.
149	Medusa	Perrotin	September 21.
150	Nuwa	Watson	October 18.
151	Abundantia	Palisa	November 1.
152	Atala	Paul Henry	November 2.
153	Hilda	Palisa	November 2.
154	Bertha	Prosper Henry	November 4.
155	Scylla	Palisa	November 8.
156	Xanthippe	Palisa	November 22.
157	Dejanira	Borelly	December 1.
			1876.
158	Coronis	Knorre	January 4.
159	Emilia	Paul Henry	January 26.
160	Una	Peters	February 20.
161	Athor	Watson	April 16.
162	Laurentia	Prosper Henry	April 21.
163	Erigone	Perrotin	April 26.
164	Eva	Paul Henry	July 12.
165	Loreley	Peters	August 10.
166	Rhodope	Peters	August 17.
167	Urda	Peters	August 28.
168	Sibylla	Watson	September 27.
169	Zelia	Prosper Henry	September 28.
			1877.
170	Maria (Myrrha)	Perrotin	January 10.
171	Ophelia	Borelly	January 13.
172	Baucis	Borelly	February 5.
173		Borelly	August 2.
174		Watson	September 3.
175		Palisa	October 2.
176		Peters	October 13.

The last four of these are not yet named. No. 170, after being detected by M. Perrotin, at Toulouse, on the date given above, was a few days afterwards independently discovered by Professor C. H. F. Peters, of the Hamilton College Observatory, Clinton, United States, and named by him Myrrha, which he proposed to retain after he had heard of M. Perrotin's discovery and name Maria, the latter being, he thought, a less suitable designation than his own.

We alluded on page 7 of the "Companion" last year to the supposed intra-Mercurial planet Vulcan. The theoretical investigations of the great French physical astronomer, Le Verrier, (whose lamented death took place on the 23rd of September, 1877, shortly after he had completed his self-imposed herculean task of determining the orbits and perturbations, and forming tables of the motions of all the great bodies of the solar system), had shown that some perturbing matter must exist within the orbit of Mercury; and a comparison of Lescarbault's observation of the so-called Vulcan, with some other similar observations at different times of a body supposed to be seen transiting the Sun's disc, led him to think that he could determine approximately the orbit of such a planet, and that it would pass over the Sun again on or about the 22nd of March last. Notwithstanding, however, a most diligent search for it on the Sun at that time, made at a large number of different parts of the Earth, no planet was seen, and its existence, therefore, is still problematical. The disturbances remarked in the motions of Mercury may possibly be due to a great number of meteors circulating within a comparatively small distance from the Sun.

A few words may be expected here on the dimensions of the solar system, with the principal permanent bodies of which our papers on planetary research and discovery have been concerned, particularly as the past year has contributed something to a more accurate knowledge of this difficult question. The third law of Kepler (shown by Newton to be a necessary consequence of the law of gravitation, if the Sun attracts all the planets with the same force, modified only by the differences of distance) enables us to know with the greatest precision the *proportions* of all the planetary distances from the Sun and from each other. But the *actual* distances can only be found by determining that of our Earth from the Sun by solving a very ill-conditioned triangle, of which the solar parallax is one angle; and that angle so small

that it would subtend a body a foot in diameter at a distance of about half a mile. Taking advantage, however, of the circumstance that Venus, our nearest neighbour amongst the planets, comes, when between us and the Sun, within a distance of about 25 millions of miles, and Mars, the next exterior planet, comes sometimes (as last year) when in opposition to the Sun, within about 35 millions, a very fair approximation has been made by using these planets as stepping-stones, so to speak, in our measuring journey to the Sun. Venus can be observed in inferior conjunction when passing over the Sun's disc; a phenomenon which occurs but seldom, and was never seen until the year 1639, by Horrox and Crabtree. Halley having, some years after this, pointed out their great utility in this way, the transits of 1761 and 1769 were extensively observed. The next following transit was the most recent one in 1874, numerous and carefully-planned observations of which were made by various nations, but have not yet been fully reduced. The result, however, of the whole of the British eye-observations (reserving the photographic) was published last summer. It gave for the solar parallax the value 8″·76. The last opposition of Mars favourable for this purpose took place in the year 1862. A large number of observations of it were made both in the northern and southern hemispheres, and the whole were completely reduced by Professor Newcomb, of Washington, who obtained the result 8″·85. The mean of these two values, *i.e.*, 8″·80, would give 92,800,000 miles for the mean distance of the Sun, and this may at present be accepted as its most probable amount, pending the international completion of the result of the transit of Venus, and that to be deduced from the opposition of Mars, which was well observed by Mr. Gill last summer and autumn in the island of Ascension, where he had transported a telescope belonging to Lord Lindsay (which had been used by him in 1874 for the transit of Venus in the Mauritius), in order to make a series of observations suitable for determining the planet's parallactic displacement produced by the Earth's rotation. Another transit of Venus will occur in December, 1882; after that none till the month of June, 2004.

W. T. Lynn.

THE OLD ENGLISH GUILDS.

THE middle ages offer few phenomena to the consideration of the antiquary more striking and noteworthy than the associations known as guilds. If he is investigating the civic history of some ancient borough, he finds how potent was the influence of the guild upon its internal economy; if he is looking through the records of a church, he will probably find that it owed some of its adornments to the action of a guild. If he inquire into the slow steps by which our commerce has been developed, he finds himself once more in face of the operation of the guild. If he seek to read the faded chronicle of industrial life in past centuries, he will again have to appreciate the action and services rendered to the crafts and craftsmen by their guilds. In what manner these associations commenced, is a matter of doubt. Dr. Brentano does not think that they originated in the family feasts, by which the German tribes celebrated births, deaths, marriages, and other important events. These gatherings had in them something of a religious nature. They were held on great sacrificial occasions, they formed also opportunities at which questions of policy and of future action were discussed. These assemblies were called guilds, because each freeman brought to them his own contribution of food and drink. The primary meaning of the word appears to be that of "a sacrificial meal made up of common contributions; then a sacrificial banquet in general; and lastly a society." Brentano, in common with Wilda and Hartwig, from the absence of any trace of the element of self-help and brotherhood in these ancient assemblies, does not regard them as the forerunners of the guilds, such as we know them at a later period. This does not detract, however, from the probability of the theory that the guild was developed from the earlier Teutonic family relations, and that the festal element was naturally transferred to the new institution. One of the striking points in the description which Tacitus has given of the Germanic tribes, is that respecting the system by which the land was held, not by individuals, but by families or *cognationes*. The members of these confraternities were bound alike by the friendships and antagonisms of the bond at large. The family exercised full powers over its members, and was in like manner responsible for all their misdeeds. It controlled the actions, paid the taxes, and made amends for all. This, though an effective system, and one that, with some modifi-

cations, still survives in many parts of the world, is one that contains the seeds of dissolution, and the influence of these discordant elements would be active in proportion to the energy and enterprise of the tribe. Gradually the time must come when by the action of war, death, emigration, and marriage, neighbours are no longer kinsmen forming a compact *maegd*. The next step is an organization differing indeed from the old, but clearly based upon it, and preserving its features so far as altered circumstances will allow. This is the mark. Neighbours band themselves into small confederations for the same purposes of mutual help and protection, that the families had previously done. The members of the ancient mark were divided into tithings (tens) and hundreds, each having presiding officers. These associations were styled guilds. Another derivation of the word makes it to mean sharing, either in payments or in worship, probably the former. Tithing and hundred, though now only territorial divisions, originally indicated the relations of individuals. In some parts the word ten-man-tale was used as an alternative term. The London frithguilds were associations of ten men united for the preservation of the common peace. Ten of these guilds formed the hundred. The object was, says Kemble, "that each man should be in pledge or surety (*borh*) as well to the State, for the maintenance of the public peace; that he should enjoy protection for life, honour, and property himself, and be compelled to respect the life, honour, and property of others; that he should have a fixed and settled dwelling, where he could be found when required, where the public duties could be levied, and the public services demanded of him; lastly, that if guilty of actions that compromised the public weal, or trenched upon the rights and well-being of others, there might be persons especially appointed to bring him to justice; and if injured by others, supporters to pursue his claim and exact compensation for his wrong. All these points seem to have been very well secured by the establishment of the tithings, to whom the community looked as responsible for the conduct of every individual comprised within them; and, coupled with the family obligations which still remained in force in particular cases, they amply answered the purpose of a mutual guarantee between all classes of men." In addition to these high duties, the guilds also served as arbitration courts for their own members, matters of small importance being thus adjusted without the delay, expense, uncertainty, and it may be occasional injustice of the

regular tribunals. They took part in the funerals of deceased members, and in some cases were bound to distribute alms and have religious services performed for the dead brother. The responsibilities which could not be fixed upon the tithing association, were borne by the hundred. Later in our own history, the hundreds were consolidated for judicial purposes. The London frithguilds returned to the brethren who had suffered theft of cattle, the value of his loss according to a fixed tariff. For the better knowledge of each other, they met together at a common banqueting table. These *geborscipe* or beer-drinkings may have been, and probably were, a survival of the family festivals of an earlier period.

The laws of Alfred declare that when one man has killed another, a third of the fine of blood shall be paid by the paternal relatives, or in default by the mother's side, another third by the *gegildan*, and the remainder by the man himself. If the murderer were without relatives, the *gegildan* were to pay half, and for the other half, "let him flee." In the converse case, the *gegildan* received half of the fine of blood, and the King the remainder. There is strong reason here to suppose that guild-members are intended.

The comprehensive nature of the objects sought by the guilds is most interesting. They were municipal institutions, friendly societies, burial clubs, and charitable associations, all combined. They were also stock insurance companies. They had to keep the brother out of crime, or be responsible for his evil-doing, they had to pay the taxes, and render the service due to their lord, they had to help the members when sick, bury them when dead, and offer up masses for the repose of their souls, they had also to teach the necessity of kindly courtesy, and to punish any breach of it by suitable fines and penalties. In addition to this, there were certain festal observances with which they were closely identified. The character of the Anglo-Saxon guilds may be exemplified by the foundation agreement of a Social Guild at Exeter. "This assembly was collected in Exeter for the love of God and for our souls' need, both in regard to our health of life here, and to the after days, which we desire for ourselves by God's doom. Now we have agreed that our meeting shall be thrice in the twelve months; once at St. Michael's Mass, the second time at St. Mary's Mass, after midwinter, and the third time on All Hallows Massday, after Easter. And let each guild-brother have two sesters of malt, and each young man one sester

and a sceat of money. And let the mass-priest at each of our meetings sing two masses, one for the living friends, the other for the departed; and each brother of common condition two psalters of psalms, one for the living, and one for the dead. And at the death of a brother, each man six masses or six psalters of psalms; and at a death, each man five pence. And at a houseburning, each man one penny. And if any neglect the day for the first time three masses, for the second five, and at a third, let him have no favour unless his neglect arose from sickness, or at his or his lord's need. And if any neglect his contribution at the proper day, let him pay two-fold. And if any of this brotherhood misgreet another, let him make boot with thirty pence. Now we pray for the love of God, that every man hold this meeting rightly, as we rightly have agreed upon it, God help us thereunto."

In Edgar's reign there is said to have been a Cnighten-guild instituted, of which there are contradictory accounts. Stow narrates that thirteen knights, in recognition of services to the State, requested and obtained a grant of a desolate plot of land from the King, with liberty for a guild for ever. The name of Portsoken Ward Stow connects with this guild, and supposes it to imply a franchise at the gate. There was no written charter until the reign of Edward the Confessor. This grant was confirmed by William Rufus, who maintained them in their rights of fraternity, soke, and guild. But it seems more probable that the word Cnighten does not, in this case, refer to members of an order of knighthood at all, but, as Madox suggests, simply implies a guild of the young men who had not yet attained the full dignities of citizenship. The wards of London were anciently called guilds, and this may be the origin of the name of Portsoken Ward. The Cnighten-guild conveyed its lands and privileges to the canons of Holy Trinity, London, and the transfer was confirmed by the Conqueror and his successors. The Prior of Holy Trinity, probably by virtue of this concession, was alderman of the Ward of Portsoken, and according to tradition, sat in the assemblies, and took his place in the processions, his purple robes distinguishing him from the scarlet gowns of other aldermen.

The earliest of the London trade-guilds was that of the Easterlings, or Merchants of the Steelyard. This "Gilda Theutonicorum" is supposed to have given rise to the famous Hanseatic League, formed to protect the Baltic trade from the Northmen

pirates of the eighth century. They are, with good reason, regarded as our "masters in the art of commerce." As early as 967, King Ethelred ordains that the Easterlings coming to Billingsgate with their ships shall be considered law-worthy, and be admitted to trade freely. This was on condition that they did not forestall the markets from the citizens of London, and paid toll at Christmas and Easter of two gray cloths and one brown one, with 10 lb. of pepper, five pairs of gloves, and two vessels of vinegar. They lived together in a common building, the Gilhalda Theutonicorum, which stood in Thames Street, where they had spacious quays. Increase of trade led to the enlargement of their factory, and to sundry additions to it from time to time. It was in this way they became owners of the Steelyard, by which name the guild came to be known. These possessions were guaranteed to them by the treaty of Utrecht in 1478. They lived in monastic fashion, each man having a separate cell, but meeting at a common table. Any brother who was unable to resist the charms of the fair ladies of London, and became married to an Englishwoman was, *ipso facto* disfranchised. The guild, being large, was divided into companies, each with its own master. There was an alderman, who, with two deputies and nine councilmen, managed the business of the association. The men from Cologne, Guildern, and the trans-Rhenish provinces formed one apartment, those from Westphalia, Berg, the Netherlands, the Lower Rhine, the Saxons, and the Wends formed another, and those from Prussia, Lithuania, and Scandinavia, a third. Each of these rooms elected yearly four men from another apartment to serve on the council. The alderman was elected by ballot. The officers were bound by an oath to maintain the rights and privileges of the merchants in England, and to deal justly towards every one, "be he rich or poor." After taking this oath the new alderman received from his predecessor the key, which was the symbol of his power and functions. In a fortnight after the election a grand meeting of the guild was held, at which the privileges of the merchants, and the laws to which they were subject, were read over. Whether the brethren of the Steelyard did always act up to their oath we know not, but it is certain that they became obnoxious alike to the merchants and to the mob of London. Under Tyler's rebellion a number of the Flemings were seized in the churches, and the shibboleth of "bread and cheese" propounded to them. Those whose foreign tongues pronounced the words *brot* and *cawse* were instantly put

to death. Stow narrates a curious controversy which arose in 1282 between the Lord Mayor and the merchants of the Steelyard. One of the conditions by which they held their privileges was that of keeping in repair the Bishopsgate. When this was likely to fall, the "Teutonics" declined to be at the cost of making it safe, and an action in the Exchequer was requisite to bring them to terms, when they had to make a grant of 210 marks for the repair of the gate, and further to undertake its maintenance and give a promise to bear a third part of the cost in money, and men to defend it if need were. In consideration of this they were to be confirmed in their ancient privileges, and allowed to keep corn in their garners for forty days before selling it, unless they were forbidden to do so by the Lord Mayor by reason of a dearth in the city. The "Gilda Theutonicorum," which at one time had exported 40,000 pieces of woollen, where all the English merchants only exported 11,000, fell upon evil days, and died from decay of nature in 1552.

There are but very faint indications of the guilds in Domesday Book. The guild-house in Dover may have been the hall in which the customs were paid to the King. Thurstan, Archbishop of York, granted to his burgesses of Beverley to have their "hanshus" or guildhall, and the same privilege as the guild of York. King Henry I gave them a guild-merchant. This King gave charters to many guilds. In 1103, the Countess of Gloucester granted to Petersfield the same liberties as those enjoyed by the men of Winchester, "who are in guild-merchant." This was a confirmation of a previous charter. Stephen granted to the burgesses of Chichester to have the customs of their borough and merchant guild as they had in the time of King William, his grandfather.

In the reign of Henry II the guilds are spoken of as common institutions, so popular, indeed, that it was thought wise to preserve for the Crown as tight a hold upon them as was possible. Eighteen of them were fined for having come into existence without the royal licence.

John gave a charter to Ipswich, freeing them from toll, and giving them a merchant guild. The Earl of Norfolk became a burgess of the town, and gave to the guild-merchant one ox, one bull, two quarters of wheat, and two quarters of malt, that he and his villeins should be free of toll in the town. Others of the nobility followed his example. King John also formed several *gildæ mercatoriæ* in London, York, and elsewhere. It was in the

reign of this impecunious monarch that the Weavers' Guild had its rent raised from 18 to 20 marks. Henry III made numerous grants, one of these was to Liverpool. In creating it a free borough he conferred upon it likewise a merchant guild. The guilds shared the imperfections which are inevitable to all human institutions. Founded for honest industry and trade, for mutual help and the advancement of social courtesy and kindliness, they were not without their brawls and quarrels. In 1226 there was a serious difference between the goldsmiths and the tailors. What was the cause of the dispute does not appear; perhaps the goldsmiths had made some unpleasant jokes about the fractional humanity of the tailors, or the knights of the shears had declared that the goldsmiths' glitter was not all gold. At all events they decided to refer the matter to the arbitrament of blows, and on an appointed night five hundred of them met fully armed, and a bloody fray ensued. It needed all the force of the Sheriffs to put an end to the battle, and to secure the ringleaders of the riot. Thirteen of these were executed. Henry III confirmed the charters of the provincial guilds created by his father, and erected into corporations the cappers and parish clerks of London. The history of the guild of Reading shows a curious struggle for power. Richard I had granted the town and tolls to the abbey, and for a time the ecclesiastics retained full power over the place. In the reign of Henry III the burgesses strove to regain some of their lost freedom, and obtained from Henry III, in 1242, exemption from shires and hundreds, and all pleas and tolls, and passage and coinage that they might be free to buy and sell wherever they would in England, and that none should disturb them upon forfeit of £10. Notwithstanding this the abbot did not give up his claims, and in 1254 the matter was tried in the Court of King's Bench. The burgesses complained that they were forced to plead in other courts than their own common guild, that the abbot had removed the old market, and striven to enforce customs and services not previously claimed. It resulted in a compromise by which the market was restored, and the abbot acquired the power of nominating one of the members to be warden of the guild. The conflict occasionally broke out again, until the dissolution, when the execution of the abbot left the Reading guild free of its ancient danger.

Edward I gave charters to the fishmongers and linen-armourers of London, and confirmed those of the weavers. The commerce of the period was very slight and inconsiderable, when

measured by a modern standard. In 1298 we read of disputes between the weavers and barillers which were referred to the arbitration of a court composed of deputies from each of the disputant bodies. Two years later, another dispute resulted in the regulation that no cloth should be allowed composed partly of Spanish and partly of English wool. The Guild of Bakers were allowed to have four hall motes or meetings in the year to determine the offences committed by members of the trade. They were only allowed to sell their ware in the market which was then held where Bread Street now stands. It is in the reign of Edward II that the commercial basis of the civic constitution of London becomes clearly visible. In the charter granted by that King, it is ordained that no person, whether inhabitant or not, should be admitted to the freedom of the city unless he were already a member of one of the trades or mysteries, or unless the full consent of the whole community were obtained, only that apprentices might still be admitted. This reign may be regarded as the golden era of the London guilds. The old name of guild became generally exchanged for that of craft and mystery, and the assumption of a distinctive costume led to their being known as "livery companies." The King, anxious to promote the woollen-cloth manufacture, which he foresaw as a mighty source of wealth and prosperity to the kingdom, resolved to throw the patronage of royalty over the associations which were then the chief instruments of the commerce of the country. The "linen-armourers," now enlarged as the "Merchant Taylors' Company," was the first to have amongst its brethren a member of the royal house. In the reign of Richard II this company counted four dukes, ten earls, ten barons, and five bishops on its roll. The Skinners could show an almost equally aristocratic list. The influence of the royal patronage of Edward III and Richard II had the natural effect of calling forth imitation from the nobles and knights of the court. The prosperity of the Grocers' Company excited the envy of certain persons, who forwarded a petition to Parliament, in which they set forth "that great mischiefs" had arisen from these wholesale merchants "who engrossed all manner of merchandise vendable," and ruled prices as they thought best for their own pleasure and profit. In consequence there was passed the statute 37 Edward III, cap. 5, which orders all artificers and people of mysteries to choose a trade before Candlemas and to use no other. The unlucky Jack of all trades was to be punished by six months' imprisonment or

other penalty. From this sweeping regulation, the women who then followed the occupations of brewers, bakers, braceresses, textoresses, weavers, &c., are exempted. This regulation was strictly enforced, and several freemen were disfranchised for contraventions of it, but, so far as the merchants were concerned, it was repealed the next year. In 1355, many of the companies gave money to the King as contributions to the expenses of the French war. The highest sum given was by the Mercers, £41: the Skinners, Drapers, and Fishmongers, gave each £40; the Vintners £33; the Grossers £26; the Grossers in Ropery £5; the Tailors £20; and others smaller sums, the lowest being that sent by the two companies of Cappers, and amounting only to 13*s.* 4*d.* The total amount of this royal benevolence was £428 9*s.* 4*d.* Some of the companies sent smaller donations next year. In 1375 a very important change was effected in the government of London, for in that year the commonalty of the city passed an enactment which transferred the election of all the civic dignitaries, including members of Parliament, from the representatives of the wards to the trading companies. The masters or wardens of the companies were to send a few of their members to the Guildhall for election purposes. Subsequently this meeting was thrown open to all members of the livery. The trade-guilds do not appear to be an integral part of our municipal institutions, but on account of their growing wealth and importance to have been admitted into the corporations already existing. Thus we find that places like Manchester, which do not appear to have had any mediæval trading guilds, possessed in a rudimentary form at least, those powers of self-government now exercised by municipal corporations. In 1376, the companies sent representatives to the common council as under:—

Grossers, 6.
Mercers, 6.
Drap^{s}, 6.
Pesson^{rs} [Fishmongers] 6.
Orfev^{rs} [Goldsmiths] 6.
Vynt^{rs}, 6.
Taillo^{rs}, 6.
Sellar' [Saddlers] 4
Webbe^{rs}, 4.
Tapicers [Tapestry Weavers] 4.
Leathersells, 2.
Foundo^{rs}, 2,
Ioigno^{rs}, 2.
Chaundels, 4.
Fullo'r, 4.
Curreo^{rs}, 2.
Freemasons, 2.
Brac^{rs} [Brewers] 5.
Fleechs, 2.
Bakers, 2.
Pell^{rs} [Skinners] 6.
Zona'rs [Girdlers] 4
Tinctores [Stainers] 4.
Burillo^{s} [Clothmeasurers] 2.

Hab'rdash', 2.
Brasiers, 2.
Salt^{rs}, 4.
Capellar [Cappers] 2.
Peutr's [Pewterers] 2.
Brewers (ales) 2.
Hur^{rs} [Hatters] 2
Tab^{r}m [Smiths] 6.
Horn^{rs}, 2.
Masons, 4.
Ir'mong^{rs}, 4.
Allucar [Leatherdressers] 4.
Armurery, 2.
Bochr's, 4.
Cultella [Cutlers], 2.
Sporiers [Spurriers] 2.
Plom^{rs}, 2.
Wax Chaundel's, 2.
Tonsores [Barbers] 2.
Tann^{rs}, 2.
Pouche Makers, 2.
Wodmay^{r}, 2.
Pynn^{rs}, 2.

Towards the close of the reign of Edward III, the twelve companies come into greater prominence, and are styled the principal crafts, the chief mysteries, &c. From them for centuries the Lord Mayor was chosen, and they took precedence in matters of civic state. The twelve livery companies were not always of this importance, but had surpassed in wealth their ancient comrades, the Weavers and Saddlers, the Brewers and the Leather-sellers, who could boast of greater antiquity. In 1385, the companies were anxious to secure the re-election of Sir Nicholas Brembre, a member of the Grocers' Company, who was opposed by the entire body of the freemen. "Also this year," says the Chronicle of London, "Sir Nicholas Brembre was chosen Mayor again, by the said crafts and by men of the county at Harrow, and the county thereabout, and not by the free election of the city of London, as it ought to be; and the old hall was stuffed with men of arms over even by ordinance and assent of Sir Nicholas Brembre, for to choose him Mayor on the morrow, and so he was." This led to certain restrictions on the voting power of the companies.

The charters granted by Edward III and his successors show that these guilds were originally trading companies following the industry by which the association was known, and working on a co-operative principle of participation in the benefits. All in necessity could claim to be relieved, and the funerals of the poor members were to be as greatly honoured as those of the rich. The privileges granted by the charters were commercial monopolies. The motive assigned for the exclusion of strangers from the city, is, of course, the good of the people, so that they may not be victimized by cheap and nasty wares. How much of this was honestly meant we need not too curiously inquire.

The word mystery in relation to the guilds does not refer to any supposed occult knowledge or even trade secrets, but is simply our English adaptation of the French word mestiere (*mêtier*).

The Grocers' Company was founded by 22 persons, pepperers of Sopers Lane, who met together 12th June, 1345, at the Abbot of Bury's, in St. Mary Axe, and having dined together, elected two wardens and a priest or chaplain. Each person had to pay 12*d.* towards the cost of the feast, and the wardens had afterwards to pay 23*d.* more. It was resolved to have a common livery, and that the priest should commence his functions on Midsummer Day, each member paying for his maintenance one penny per week. The Grocers' officers had the assay of drugs, as the Goldsmiths that of metals, and the Fishmongers the oversight of the fish brought up for the food of London. The tailors, with their silver yard measure, had the right to test the length of the goods to be found in Cloth Fair. By way of providing for the poor and distressed members, many of the companies built almshouses for decayed companions of the guild. The Governor of the Taylors' Company was styled Pilgrim, because he travelled on behalf of the craft. The crafts were always of a semi-religious character, and usually placed themselves under the invocation of some particular saint. The grocers were styled "the fraternity of St. Anthony," because they had an altar in the church of that name. The fishmongers chose St. Peter, and met at St. Peter's. The history of the great companies of London lies outside the scope of the present paper, and they are only referred to here in their earlier stage when they were still clearly craft and trading guilds. Their varied history, and the records of their charities, must be sought in the pages of Herbert.

There were travelling guilds, chiefly of those engaged in the building trades, who went from place to place. These are named by Gervase, of Canterbury, at the commencement of the 13th century. Very few particulars remain to us of the internal regulation of the earliest trade guilds. There appears to have been usually a president or alderman, and a council, to govern the conduct and affairs of the associate members. A favourite number for the council was thirteen, in allusion to Christ and the company of the Apostles. Du Cange mentions one in which there were twelve men and one woman, the allusion in this case being to the Virgin Mary. This was probably a religious body.

In the reign of Edward III, it was established in the law courts that the King alone can create guilds.

Much valuable information respecting the objects and working of the old English guilds is furnished by the returns made to a mandate of Richard III, who, in 1388, directed the Sheriffs to make proclamation, calling upon all the masters and wardens of "guilds and all brotherhoods" to send statements as to the foundation, statutes, and property of their associations. The returns so made were discovered by the late Mr. Toulmin Smith at the Record Office, and published by the Early English Text Society. From these we shall give examples. The Guild of Garlekith, in London, was begun in 1375, for the amendment of life and the nourishing of love. Each brother and sister took oath to obey the precepts of the order, each one was to be of good repute, and to pay 6*s.* 8*d.* to the common box on joining the fraternity. The wardens were to gather the subscriptions, and to give an account of their stewardship yearly. The members were all to be "clothed in suyt," which was to last for a year. There was an annual feast (to "norishe more knowlech and love"), costing xx*d.* a-head. The annual subscription of 4*s.* might be paid in quarterly instalments. Four business meetings were held each year. Members were encouraged to make free gifts to the guild, and those misbehaving themselves were excluded. The members were bound to attend the funeral of any brother or sister of the order under penalty. Quarrels were to be referred to the wardens, and those disobeying their awards were excluded. Those who had been members seven years, and had become old and sick, were to have xiiii*d.* weekly from the common box. The same allowance was to be made to any member falsely imprisoned by his enemy. The person chosen warden must serve, or pay a fine of 40*s.* The Guild of St. Katherine, Aldersgate, received new members with a kiss of charity and peace; it gave help in old age, and relieved loss by fire and water. The election followed an assembly, on St. Katherine's Day, at Botolph's Church. They made loans on security from the common box to the poor members. They kept candles burning on festivals in honour of St. Katherine, and paid the friar minors to say masses for the dead brethren. Another of the Aldersgate guilds helped the young to obtain work. The Guild of St. Katherine of Norwich undertook to bring back for burial any member who died within eight miles of the town. The brotherhood of barbers of Norwich was instituted simply for the purpose of offering candles and

"torches of wax" in the church on Midsummer Day. The Poor Men's Guild of the same city found a light in honour of "Seynt Austyn." The object of the Guild of the Young Scholars of Lynn was to keep an image of St. William, with six tapers burning before it, in the Church of Saint Margaret, and to pay for the funeral services of the members. They had spent all the goods of the guild, but were hoping for more gifts. The Shipman's Guild has a provision against the entry of the ale-chamber, but on the feast days the alderman might drink two gallons of ale. In many of the guilds there is a rule that no one is to remain in the guild-house longer than the alderman. The officers were not always chosen by the general assembly, but in some, for instance, in the Guild of the Nativity of St. John the Baptist, at Lynn, the outgoing alderman nominated four members to elect his successor. Another guild provides that whoso "be rebel of his tongue" against the alderman at the "mornspeche" or meeting shall be fined a pound of wax. Members were not to come to the feast in a tabard or cloak, "ne barelegs, ne barefote." If a brother is noisy, and will not be silent, he shall hold a rod, or pay a fine. None at the feast to sleep nor keep the ale-cup to himself! Those who come not to the meeting are fined, and if they grumble at the infliction they incur a second fine. In several there are rules against any member going to law without having first obtained the consent of the alderman and council, who are to do their best to compose the difference. It appears from the ordinances of the Guild of St. John Baptist, West Lynn, that the offerings at the dirge were spent in buying bread for the poor. The Guild of the Holy Trinity of Wyngale, Norfolk, besides undertaking the burial of poor brethren, engaged that if one were drowned, he should be sought for six miles round. At York there was the Guild of the Lord's Prayer, originating from the circumstance that "once on a time, a play, setting forth the goodness of the Lord's Prayer, was played in the city of York, in which play all manner of vices and sins were held up to scorn, and the virtues were held up to praise." This had met with so much favour that a guild was instituted to perpetuate its performance. The guild also performed other duties. When the play was being acted the members rode through the streets in its livery, and preserved order. Another of the York guilds was for the procession of Corpus Christi. This appears to have been a clerical guild, and the laymen, although allowed to contribute, were not to have any share in the management. There were over

14,000 recorded members who took part in this solemnity. The Guild of St. Elene, of Beverley, had a yearly procession, in which a "fair youth" was dressed up to represent St. Helena, and was preceded by an old man bearing a cross and shovel, in sign of the finding of the cross. They maintained three or four bedridden people, kept lights burning, and had service for the dead. The Guild of St. Mary had a pageant representing the presentation of Jesus in the Temple.

Belonging to the class of craft-guilds, there is a return from the great Guild of St. John of Beverley of the Hans House. It recites the charter made by Thurstan, Archbishop of York, by the authority of Henry I, that the men of Beverley shall have the same privileges as those of York. He grants them a hanse and right of toll, save on three feast days, which are to be toll free. Then follows the charter of Archbishop William, granting them a guild merchant, and its confirmation by the Pope Lucius II. The Guild of the Fullers of Lincoln contains some curious particulars. None of the craft were to work at fulling with a woman, unless it were the wife or handmaid of his master. Strangers coming to the city might work in the trade on making a small payment. If one of the members started on a pilgrimage to Rome upon a holiday, the guild was to accompany him out of the town, each member giving him a halfpenny; on his return he was met with rejoicings. The Guild of Kyllyngholm, in Lincolnshire, had a rule that if a poor member had a guest, for whom he could not buy ale, he should have a gallon of the best of the guild's brewing; but if it had been obtained by trickery, then he should "be in the gildwyt of half-a-bushel of barley." At Stamford the guild owned a bull which was hunted—not baited—then sold, and the proceeds spent in a guild feast. The Guild of the Palmers of Ludlow provided for help in theft, fire, shipwreck, and other trouble, relieved its members unjustly in prison, gave aid in sickness, and to those incurably afflicted with a liberal hand, helped girls to marriage dowries, or to entrance into a nunnery. Then follow some very curious particulars as to services for the dead. No woman, except of the household of the dead, is allowed to keep a nightwatch; and a man only on pledging himself not to make a mockery of the corpse, *nor call up ghosts!*

The Guild Merchant of Coventry was ratified by letters patent of Edward III (1340), which were subsequently confirmed. The ordinances set forth that chaplains shall be appointed after the

poor of the guild have been provided for and its other duties performed. Any man or woman of the guild who has fallen into poverty shall have a free loan to trade with; those who are old or sick shall be maintained as befits their need. Criminals were to be excluded. There was to be an annual business meeting, and a quarterly meeting for prayers, quarrelling was "strictly prohibited," the dead member was to be chaunted for by his name and surname of baptism, those dying outside the city were to have the same services. The guild had tankards of pewter and brass, and "napery," valued at xx*l.*; also chalices, vestments, and so on for the chaplains; and it had £37 yearly rental from anas, houses, and rent-charges, held for its benefit by well-wishers until it obtain licence of mortmain from the King and middle lords. From this rental the chaplains were paid; they also maintained thirty-one men and women who were unable to work or to gain their own living. They also kept a lodging-house with thirteen beds for poor folks on pilgrimage. "And there is a governor of this house, and a woman to wash their feet, and whatever else is needed." On the feast-day the brethren and sisters of the guild were clad in its livery, some in suit at their own cost, others in hoods at the cost of the guild. The almsmen were clad in gowns and hoods at the expense of the fraternity. The Guild of Holy Trinity of Cambridge had a special ordinance against the interference of any ecclesiastical member in the government of the fraternity. Its affairs were to be managed wholly by laymen. The Guild of the Fullers of Bristol, in 1406, laid before the Mayor of that city certain regulations for the trade, founded upon older but less stringent rules. They ask that four persons be chosen to see that the work be well done and that the fullers do not have more wages than elsewhere, and that those who have their clothes fulled outside the town shall not have them finished in the city. If these officers failed in their duty they were to be fined. The Guild of the Kalendars of Bristol, whose objects were to keep the ancient records and muniments of the town, is said to have been founded before the Conquest. Some of the guilds were musical. There was a guild of ringers at Bristol, and another at Westminster, and of minstrels and players at Lincoln. There was a long quarrel between the Town Council of Exeter and the Guild of Tailors of that place, which was only settled by an Act of Parliament. How real was the control exercised by the guilds is shown by some cases. A customer

complained that the cloth given to one of the tailors had not all been worked up, but it was shown by "patrons of blacke paper in our comen Kofer of record," that there had been no stealing. In another case the craftsman is condemned to pay for the cloth, and to keep a gown which he has spoiled in making. The customer of a tailor failed to obtain redress because the "sayde John was neuer amytted for a fre sower," and so the injury done could only be remedied at common law. A master having chastised his servant somewhat unmercifully was ordered to pay the doctor's bill and the servant's board for a month, give him 15*s.*, and a fine to the guild of 20 pence for "mysbehauing aynst the craift." A recalcitrant member was put in the stocks for a day and a night, and only released on sureties for his better behaviour in the future. This guild had a confirmatory charter as late as the reign of James II. Sometimes the guilds would unite and form one general town guild; of this we have an example in Berwick-upon-Tweed. The ordinances would, therefore, probably exhibit something of the characteristics of each of the bodies in union. There was to be only one guild, with a common stock. Brethren were expected to make bequests, and non-members could have the benefits of the guild by the same process. Unmannerly words were punished by fine, and still heavier amercements attended the infliction of bodily injuries. No weapons were allowed at the meetings. Other offences against decency were to be punished. New comers had to pay an entrance fee. The guild relieved sickness, furnished dowries, buried the poor brethren, helped those charged with wrong-doing beyond the city for two days. Those who disdain the guild shall be denied its benefits. The meetings were com menced by the sound of a trumpet. No lepers were allowed in the town, there being a place for them outside. No dust-heaps were to be placed on the Tweed. There was to be silence maintained in the court whilst causes were being tried. Every burgess worth forty pounds must keep a horse. No hand-mills were to be used but the miller allowed his share. None but the brethren of the guild to trade in wool or hides. This did not apply to stranger merchants. Brethren sharing profits with strangers to be punished. Forestalling was not allowed in the market. Goods that are fair at the top and bad below are to be made amends for. The price of mutton is laid down by another ordinance. Butchers shall not be allowed to buy wool or hides. The ale-wives were fixed to a certain charge, varying within the two

halves of the year, but not exceeding two pence a gallon. Brokers were to be chosen by the commonalty, and were to give a cask of wine to the town. The hucksters were not to buy up goods before the bell had rung. Wool and hides were not to be engrossed by a few buyers. "No burgess to get an outsider to plead for him against a neighbour, under penalty of a cask of wine." Whoever tries to break up the guild shall pay a cask of wine. The affairs of the town shall be managed by twenty-four discreet men of the town, chosen thereto, together with the Mayor and four Provosts. These were to be chosen by the commonalty. Bewrayers of the guild to be heavily punished. No glover nor skinner to cut wool during the summer months. Buyers of herrings to share and share alike. The carriage of wine casks was regulated by ordinance. No woman to buy more than a chaldron of oats for making beer. Butchers not to forestall the market. Leather tanned by outsiders to be sold in the open market. No one was to have more than two pairs of mill-stones. No brother of the guild ought to go shares with another in less than a half quarter of skins, half a dicker of hides, and two stones of wool. Sea-borne goods to be bought "at the Bray," and to be carried away between sunrise and sunset, under penalty of a cask of wine. Payments of dues by foreign merchants were to go to the stock of the guild and the borough fund, "save what is due to the Crown." Outdwelling brethren of the guild must deal in town on market days. These ordinances were settled after five days consideration in 1283 and 1284.

The social or religious guilds are those in which perhaps the grand motives underlying the old guilds are most noticeable. The trade guilds and the guilds-merchant may appear to modern eyes simply the commercial or industrial enterprises, regulating not always wisely the business of the craft, and grasping sometimes at unjust monopolies. The guilds, in point of fact, embraced the entire of the common life of the middle ages, and bound it together in a circle of charity and brotherhood. Commerce, handicraft, social meetings, almsgiving, religious worship, funeral provision and prayers for the dead, were all cared for by the guilds. They mingled the functions of religion with the work of trade and charity, and up to their lights were in many instances noble exponents of the brotherhood of man. The moral basis of the guild is then most clearly seen in the case of charitable or non-trading bodies. There was, at one time, at

least one guild in every church in the city of London. At Oxburgh, in Norfolk, the guild had a house where poor strangers were entertained out of charity, and pensions provided for poor persons. The books of a charitable guild at York, which numbered many persons of wealth and position in the twelfth century, is still preserved in the British Museum. A guild at Wolviston, Durham, in the fifteenth century, had for its object the relief of the sick and the burial of the dead. It had flocks of sheep and lambs, which grazed upon the common lands, and from the sales of which the necessary funds were obtained.

The guild of St. George of Bristol had from Henry V a charter constituting them a body corporate capable of holding lands in succession. This is said to be the first distinct grant of the power of succession given to an eleemosynary brotherhood.

A curious anticipation of the charitable guilds was in existence at Alexandria in the third century. It was a fraternity having for its object the nursing of the sick, but in the course of its history became powerful in other matters, and a decree of Theodosius was issued in 416 to restrain it from interfering with non-religious matters.

The purely clerical guilds were often styled the Guilds of the Kalendars, because the meetings were held on the kalends of each month. Sometimes the clergy of a particular church were erected into a religious guild. Of this we have an interesting example at Manchester. To provide a remedy for the evil of non-residence, the rector of the place, who was also Lord of the Manor, gave land and a hall for the maintenance of a resident clergy, who were to perform the services of the parish church, and were styled the "Guild or Company of the Blessed Virgin at Manchester." Their lands were estimated at 250 marks yearly.

There is a strong resemblance between the social guilds and the modern friendly societies. This similarity has often been remarked. In many Roman Catholic countries, alike in the old and the new world, the work which is done in England by burial clubs and friendly societies, is still performed by guilds and confraternities, usually under the invocation of saints.

The particulars already given will enable the reader to form some idea of what is known respecting the origin and internal regulation of the guilds. He has seen, notwithstanding their varying action and regulations, that they were in the main animated by that spirit of self-help and self-government which

forms so important a feature in the national character. The abuses to which they were liable are not less easy to perceive. As respects the social and charitable guilds, they were involved in the destruction which attended the religious foundations at the Reformation. Whatever enormities may have disgraced the religious houses, the guilds, so far as can now be discerned, were occupied in holy works of charity, and not likely to be mixed up in theological strife. They were undoubtedly devoted to "superstitious uses," for a portion of their money went in burning candles at the images of the saints, and in masses for the repose of the dead. They were therefore included in the wholesale plunder of the Reformation. The alms intended for the relief of the poor and sick, for the succour of the wayfarer, for the dowering of portionless girls, were swept away to fill the coffers of king and courtiers. The history of the trade guilds was different. Membership conferred the right to exercise a certain trade, and the right could be acquired in no other way. They were thus trades-unions with great powers, and even when tolerating the presence of the non-freeman, could bind him by their regulations. But industrial enterprise cannot be bound by such ties. The desire to make things too comfortable for the members, to crush competition, and to look to the narrow interests of the guild rather than the broader interests of the public, could not hold its own against the innovations of the modern manufacturing system. The encroachments by which guilds gradually absorbed all trade into their own monopoly received a check by a statute passed in 1496, wherein, after mentioning the regulations by which the mercers and other companies forbade persons to sell without having obtained their consent, it proceeded to enact that *all should freely sell without any exaction for their liberty to buy and sell.*

The guilds were essentially fitted only to deal with a system of small craftsmen. They could not have coped with the factory system, or with that congregated labour which is now the rule. In some cases the ancient trade of the place became extinct, in others it adapted itself to the changed conditions. In very few cases do the guilds retain any of their ancient powers. From their earliest existence the guilds appear occasionally to have had members who were not of the craft. As in process of time municipal and other privileges became attached to membership, admission was sought, and in some cases paid for at a high rate, and for reasons that would have been incomprehensible to the founders of the guild. It was not until the Reform Act that the election of

Members of Parliament was taken from the freemen of the trades and restored to the inhabitants at large.

With a plentiful admixture of errors in political economy, with an amount of superstitious observance that may be displeasing to some, and with a sometimes superfluous quantity of feasting and frippery, there is yet much that is good and worthy of admiration in them. They show us in what manner our forefathers organized trade and industry, how they punished the dishonest workman and the unjust merchant, how they gave gladness and colour by festivals and processions to the dull routine of labour, how they helped the lad to a trade and the lass to a husband, how they aided each other when broken down by misfortune, or made helpless by sickness and old age, and when the curtain dropt upon the last scene of all, how they went as mourners in the streets and placed their ancient comrade to rest in his long home.

WILLIAM E. A. AXON.

OUR NATIONAL SPORTS AND PASTIMES.

IT may be safely said that at no former period of our history has there existed such a widely spread love of out-door recreation in the way of Sports and Pastimes as at the present moment, and that this will be a marked feature in the record of the latter half of the 19th century in this country. This devotion to out-door recreation cannot fail to exercise considerable influence on the character of the nation. In one aspect the recreations of a nation show its character, but it is also certain that they go a great way to influence it. History teaches us that the greatest of the old nations of the earth, the Greeks and Romans, were much given to recreation in the open air, to field sports, and a variety of athletic games and pastimes, and that while these were eagerly pursued, the races were at their best. The question, therefore, of the influence of our sports and pastimes on ourselves must be an interesting one, while its importance is considerable from a national point of view. Our out-door sports and pastimes are almost innumerable, and it is a matter for congratulation that few now exist to which any reasonable objection can be taken, bull baiting, cock fighting, and other brutalizing exhibitions having passed away. Under the comprehensive title of this

article will come so many different forms of recreation, that we can only pass them but briefly in review, noting by the way their chief characteristics, and the influence, good or bad, they may seem likely to have on the individual and the community in general. They seem to divide themselves into four classes; I. FIELD SPORTS, including Hunting, Shooting, Fishing, &c.--II. GAMES of a more or less athletic character, and into which competition greatly enters, such as Cricket, Football, Polo, Croquet, Archery, Rackets, Tennis, and the Scotch games of Golf and Curling.—III. AMUSEMENTS or PASTIMES, such as the Turf, Yachting, and Coaching, which have no athletic element in them; and Rowing, Bicycling, Swimming, &c., which have an athletic element.—And IV. ATHLETICS proper, which comprehend Running, Jumping, Wrestling, Fencing, &c., though some of these are not necessarily of the nature of out-door recreations to which the present article is limited.

Let us take these Four Divisions in their order.

I.--Among our FIELD SPORTS, to Foxhunting is accorded the first place by almost unanimous consent, and though in a certain sense limited in the way of enjoyment to the few who have the time and money to follow it, it is certainly the most popular of all our sports. The system of hunting as at present practised would seem to have been adopted about the beginning of James the First's reign, although regular hunting was established before that time. A "national institution" foxhunting has every claim to be called, not merely because in the modern hunting field you may find the representatives of every distinct class in our social economy, but because also an agreement seems to have been arrived at between the different orders whose interests are in some way or another affected by the sport. Foxhunting, as a popular pastime, rests upon exactly the same basis as that upon which society itself is founded--mutual tolerance. Foxes are not exactly agreeable neighbours in the contiguity of farm preserves or farm yards, nor are fences invariably improved by the gallop of a hundred or two equestrians across country. But, directly or indirectly, farmers, game preservers, and agriculturists find they lose nothing by foregoing the assassination of foxes, or the commencement of an action for trespass against the more conspicuous champions of the "red-coated clan." The old give and take system receives a new exemplification, and the result is that the chase does but, by general agreement, knit together more closely the various classes

and interests of rural England. And just as within the last quarter of a century field sports in general have acquired more and more a character of true and real nationality, so in a pre-eminent degree has foxhunting in particular. It is, we venture to say, infinitely more of a genuinely national sport now than in the days when those mighty riders, whose very names have something of the heroic ring about them, made Melton such a splendid metropolis of the chase. Palmy enough those days were, but the same movement that has extended the area of hunting has also caused its foundations as a popular pastime to be deeper and more sure. The modern hunting field brings together the most miscellaneous assemblage in the world. Medicine, letters, law, are all represented. Hunting has long ceased to be confined to country gentlemen, farmers, and rich strangers; the hunting field has lost its old exclusiveness. From different causes, men who at one time never rode at all ride now, and they naturally gravitate to the chase. In proportion as town life and town labour have increased, the recreations of the country are more prized. Moreover the railroad has made them easier of access and cheaper. The fear that steam would destroy hunting has turned out to be quite groundless. On the contrary it has popularised the sport, and recreated it on a wider and much more completely organised footing than it ever held before. A man may now live in London, be at his desk or his counter four days in the week, hunt the remaining two, and yet sit down to dinner with his family at seven or half past. And what is true of the dwellers in London is true also of the dwellers in all large towns. Fox coverts have doubtless been disturbed by railways, but then the habitations of foxes have been artificially improved, for the railways have brought men, and men have brought money. Hence a development of the sport which has coloured and affected all English life. The hunting field is an ideal of democratic equality. There is no place in the world where a man is valued so entirely and exclusively for what he does. For the time being, peasant, if he is mounted, is on a par, if he can hold his own, with peer. It is this kind of equality which promotes and intensifies social unity, and on this ground, if on no other, hunting may claim to be considered not less valuable to the nation as a social institution than it is as a physical recreation, and, we may add, moral discipline to the individual. Even in this age of utilitarianism he would be a bold man to deny that the hunting field is an institution to be upheld. It is

English to its very core ; and it is no exaggeration to say that it contributes in no slight degree to that development of English character and spirit which we may hold, without undue boasting, still favourably distinguishes us from other nations. The hunting field is a grand nursery for pluck, enterprise, and endurance ; and it is well known that foxhunting is perhaps the best school of all for the making of a cavalry officer. One word from another point of view. At the present time there are about 120 packs of foxhounds kept in England and Wales, exclusive of a considerable number in Scotland and Ireland. Each of these packs costs on an average about £1,500 per annum. In England, therefore, a yearly expenditure of at least £180,000 may be calculated on as the cost of the establishments alone, while if to this is added the additional cost of hunters to mount the field attending each hunt, the whole outlay cannot be less than six or seven hundred thousand pounds annually. This money more or less finds its way into the pockets of the "agricultural interest," and is distributed in various ways throughout rural districts ; and hence foxhunting has a beneficial effect throughout the length and breadth of the land. It promotes, too, the breed of horses calculated for war purposes, and thus is to be encouraged from a really national point of view.

Hare Hunting with Harriers is a tame sport compared with that of foxhunting, but similar in its character. It is, however, a fair substitute for the more exciting pursuit, and can be followed in a quiet way by men who would never indulge in the other. The gentleman whose proud motto in the hunting field used to be *aut Cæsar aut nullus*, when he has been long married and grown portly, subsides contentedly enough into the saddle of a steady cob ; the farmer jogs out to join the hunt on "a young one" he is breaking in, knowing he need neither go farther nor faster than he cares to go ; and then harriers may have excellent sport in a country where foxhounds might as well stay in their kennels. Hare hunting on foot with Beagles, a smaller kind of harrier, has increased in popularity of late years, and very deservedly so, for it affords a good field for sport, and any amount of healthy exercise.

There are two kinds of Stag Hunting, the one in which uncarted deer are employed, and the other in which the wild deer are followed in their "native wilds." The latter kind of hunting is, however, almost confined to a small district in the west of England, in the region of Exmoor and the Quantock Hills.

Here the red deer are carefully preserved for hunting purposes, but are essentially wild deer, and afford, in a certain aspect, the grandest of our sport in the way of hunting. The scenery in which this sport is carried on is among the most lovely in England, and though there is no straight riding as in the Midland grass counties after foxhounds, the sport is of the most exciting nature, the killing of a "veritable" stag requiring an immense amount of skill in venery and woodcraft. Hunting the uncarted deer is a very different thing, but though objected to by some on the ground of its being unsportsmanlike, it is generally recognized as a legitimate sport. Many who affect this sport do little more than attend the meet, as a mere spectacle, or keep to the roads after the deer is uncarted, and are satisfied with seeing something of the run at different points; but there are also many who prefer it to fox or hare hunting, because it seldom happens but that a run of some kind or other is obtained. Thus with every pack of staghounds there are many hard riders, notably with the Queen's staghounds and Lord Petre's in Essex, which packs are, of course, largely patronized by the "Metropolitan division." It may be difficult to say in what real "sport" consists, and whether an absolutely wild animal, found in its native habitats, is necessary to constitute it; but certain it is that stag-hunters derive a similar pleasure to that of fox-hunters, and are but seldom disappointed by a "blank day." They get, at all events, fresh air and healthful exercise, which, after all, are the great advantages to be derived from out-door sports of all kinds.

The pursuit of the Otter may fairly come under the denomination of hunting, though it is followed on foot. It has numerous votaries, and much to commend it as an exhilarating pastime, and in the districts where it can be had it was never more popular than at the present time. A dry summer, when the water is low in most streams, is most favourable to it. Devonshire is a great otter-hunting county, but the other western counties of Cornwall and Somerset have their share of this sport. Wales, too, affords abundant facilities for this kind of hunting. In Scotland the sport is eagerly followed, but perhaps the best otter-hunting in the kingdom is to be had in the counties of Northumberland, Cumberland, and Westmoreland, and parts of Yorkshire. The otter-hunting season ranges over the months of June, July, and August, chiefly for the reason that during the rest of the year the water

would be too cold for the work, and both men and dogs would soon get cramped at it. As a sport otter-hunting must be considered as legitimate as fox, stag, or hare hunting, though from the manner in which the quarry is hunted by men and dogs from pool to pool, and worried and "badgered" in every conceivable way, there may appear to be more of cruelty involved in it than in other hunting. So full of expedients, so full, too, of pluck, and so capable of endurance is the otter, that it is no uncommon thing for a hunt to last from four to six hours, and even after that the quarry will often escape. The difficulty, then, of killing, as well as getting on terms with an otter, even after his "seal" and his "spraints" may have been hit off, makes the sport a legitimate one from a sportsman's point of view, requiring as it does great skill and perseverance on the part of the hunters, as well as the dogs, to crown it with the success all sportsmen naturally desire as the termination of their labours. As an enjoyable pastime, the otter hunter, who by the way is almost invariably an enthusiast, will aver that it is unrivalled. And certainly there is very much to be said in its favour. A sportsman of the otter hunting stamp is, in nine cases out of ten, a lover of nature; and in no other sport, perhaps, can he drink in his fill of her beauties as he can when in company with the otter hounds.

A somewhat kindred sport to hunting is Coursing. Private coursing as distinguished from public coursing for stakes, has varied but little for nearly 2,000 years. Arrian's description of it in A.D. 150 is mainly a true description of it now. Public coursing is a comparatively modern institution, though it dates back as far as the reign of Charles I, when several matches are recorded to have been decided *coram populo*. But it is only within the last half century, or even a less period of time, that it has taken a leading place among the sporting institutions of the country, its development, like that of many other sports and pastimes, being specially marked within the last ten years or so. At the present time, as the coursing "List of Fixtures" shows, there is an average of three or four public coursing meetings held every week during the season; the number of stakes annually contested in the United Kingdom exceeds 700, for which on an average at least ten dogs run; and there are probably more than 1,000 coursers who run their dogs in public. For these, and indeed for all interested in coursing, the Waterloo meeting is the climax of the coursing season, and when we

consider that between forty and fifty thousand persons assemble each day of the gathering on the plain of Altcar, as a sporting festival it is hardly of less significance in some aspects than the great racing carnival on Epsom Downs. There are, as most persons acquainted with public coursing are probably aware, defined principles of deciding a course. There are six recognized points of merit, viz., "speed" from the slips to the hare, the "go by," the "turn," the "wrench," the "trip," and the "kill"; and there is a recognized scale of scoring, or so many "points" allowed to a dog as he performs during the course one or more of these meritorious actions. But between public and private coursing there is almost as much difference as between the doings at a public and private billiard table. In the former business, in the latter pleasure, chiefly predominates. In public coursing the merits of the respective dogs, the value of the stakes, and the wagers pending, are the chief elements. In private coursing the day's sport and the healthy exercise are the principal considerations. A day's private coursing, say with half a dozen brace of dogs and a dozen friends, just sufficient to beat the ground, with game abundant enough to run a score or more courses, between ten in the morning and four in the afternoon, is one of the most enjoyable day's sport which can be had. You can ride or walk as it suits you, and slip your own dogs, without being bound by the strict rules of a public coursing meeting. It is a fair and legitimate sport, the pursuers and the pursued being, generally speaking, on pretty equal terms; perhaps more frequently than otherwise the advantage being in favour of the hare.

In a certain sense more popular than hunting, because enjoyed by a larger number of persons, comes Shooting. The Englishman is a dear lover of his gun; and taking all things into consideration, shooting is perhaps the most really pleasurable of all our field sports, and most conducive to health. Of course, it is only given to the comparatively few, who can afford to pay for it, to partake of the most enjoyable of all shooting, namely Grouse shooting. But the number of grouse shooters increases each year. The truth is, that notwithstanding certain seasons of commercial depression, the number of the wealthy and leisured classes grows each year, and hence the increasing number of those who demand facilities for grouse shooting. The sport is now no longer a reserved aristocratic luxury. Still the comparatively limited area over which this sport

can be had, will for all time limit the number of those who obtain the privilege of enjoying it. Not so with Partridge shooting. The area for this is only limited, so to speak, by the extent of this country. If it is not exactly "sport for the million," it is sport for many thousands of almost all classes, as the list of licence-holders annually testifies; and he is indeed an unfortunate lover of the gun who cannot manage to have some little partridge shooting in September. With health, strength, a fine day, and a fair supply of game, there are few if any pastimes from which a man, who, for the greater portion of his life, is "in populous city pent," can derive more genuine enjoyment than from a ramble over stubble and turnips, mangolds and seed clover, in company with an agreeable friend, and behind a brace of well trained dogs. In a far higher degree than any other bird, the partridge is the flying game of the ordinary English sportsman, and the First of September the chief red letter day of his calendar. Pheasant shooting, as pursued many years ago, when there were plenty of thick hedgerows all over the country, innumerable small woods and brakes, and a quantity of "rough" land, is now almost a thing of the past. It has become artificial in the extreme, and reduced to little else but *battue* shooting in the winter months at the country residences of the nobility and rich landed gentry, a style of sport which finds but little favour in the eyes of genuine sportsmen. Space will not permit us to allude even briefly to other fields for the use of the gun in this country, though many of these, it may be noticed, are becoming more limited every year.

There are two practices in connection with shooting, of comparatively recent development, which have given rise to no little discussion, "Driving" and the use of the "Kite." It is held by many that they are both unsportsmanlike; but why so it is difficult to understand. It is sometimes almost impossible to get anything like a bag of partridges, even early in the season, without the use of the "Kite;" but at the same time it must be remembered that a too frequent recourse to this assistance will drive the birds away from any district where it is in vogue. Sometimes, too, "driving" is the only way in which a shot at grouse can be had. Both "driving" and the use of the "Kite" require no little generalship on the part of the sportsman if they are to be attended with success, which is certainly something to be said in their favour; while they have the advantage of presenting sport under a new aspect.

In concluding our remarks upon shooting, we would add a few words in reference to guns. As, in the early part of the first half of this century, the detonating muzzle-loader superseded the flint gun, so, in the beginning of the second half, the breech-loader has displaced the muzzle-loader. But it seems we have not yet reached the limit of improvements. A new system of boring guns has during the last three years been extensively adopted, whereby an improvement, generally speaking, in shooting power has been effected to the extent of 20 to 30 per cent. over the old system. Some carefully conducted trials have demonstrated this, and the result of them showed that the guns of Mr. Baker, of Fleet-street, were the best of those put forward by London makers, and those of Mr. Greener, of Birmingham, of those by provincial makers. The new principle of boring is known by the name of "choke" boring, to signify that the muzzle of the gun is "choked," *i.e.*, it is somewhat smaller, though almost infinitesimally so, than the other parts of the barrel.

Fishing, as a "field sport," is a most tempting subject, but for our present purposes need not detain us long. It is to be remembered, however, that as an out-door recreation it has many more votaries that either hunting or shooting, for the simple reason that it comes within the reach of a larger number of the community. Like grouse and pheasant shooting, deer stalking, hunting, and some other field sports, there are kinds of fishing which are not to be obtained by "the million," such as salmon and trout fishing, but there is abundance of fishing which is open to the middle and working classes. They have various reservoirs, canals, and pieces of water all over the kingdom, in which they can have a day's fishing at an almost nominal payment, and "free" rivers, like the Thames and Trent, where they can fish without any payment at all. The name of those who resort to such waters is "legion," and it is almost impossible to estimate the amount of pleasure derived by thousands from this simple though scientific amusement. Fishing has well been called the "contemplative man's recreation." As a restorative to the mental and bodily powers of its votaries it is invaluable. The more fishing facilities the better; and in order to improve the sport generally, we should be glad to see a "fence time" for all kinds of "coarse" fish enacted for the whole kingdom.

The advantages of Field Sports we would sum up as follows. In the first place, they conduce to the bodily health of those who take part in them, and especially of those who have to

lead sedentary lives in the great centres of population. In the second place, affording as they do most enjoyable recreation, heightened with a legitimate element of excitement, they conduce to a healthy frame of mind. They tend also to develop certain moral qualities, such as patience, preseverance, observation, thoughtfulness, and care, all of which are more or less to be found in the character of a good sportsman. Field sports have the further advantage of bringing about a large admixture of classes in their pursuit, and thus conduce to the interchange of good feeling between them; while they directly and indirectly cause a very large annual sum of money to be spent throughout the country, and particularly in rural districts. Thus, from a variety of points of view, field sports are to be upheld; and there can be little doubt but that at the present time their pursuit is exercising a wholesome influence on the community. It might be added, too, that the yearly value of game, as an article of food, is worth consideration.

II.—Among our GAMES, Cricket stands out prominently as the most distinctively national. Whatever may have been its origin, it was certainly a well known every day game more than 300 years ago, for in a trial at Guildford in 1597, about the ownership of some land, one John Derrick, Gentleman, gave evidence that he knew the piece in question fifty years before or more, and that when a boy he and his schoolfellows were in the constant habit of playing "cricket" on it. The earliest match of a public character on record seems to have been one between Kent and England, in 1746, which the county won by one wicket. There were then only two stumps to each wicket, and the third was added exactly one hundred years ago, from which period no substantial alteration has been made in the game. As an athletic pastime it has much to commend it, for though ensuring to the players a large amount of exercise, it is not of a physically exhausting character, except when a batsman has a very long innings. It is a game also free from all or almost all drawbacks which attach to some other pastimes, and generally speaking an English cricket field on a great match day, with its multitude of spectators, is a sight of which, as a nation, we may be justly proud. The impetus which the great matches played yearly in the metropolis give to cricket throughout the country is immense. It is almost impossible to have too much of this wholesome game. It is good for boys at school, for middle-aged, and even old men, for rich and poor, for villagers and towns-

people; and it is no bad sign of the times to see the avidity with which the game is played by all classes in the metropolis, and in other large centres of population. During the last ten years the game has been brought to a very high pitch of excellency in all the departments, bowling, batting, and fielding alike; and one of the chief features of the period just mentioned has been the superiority shown by the "Gentlemen" over the "Players," in their great public matches; the former having completely reversed the state of things which existed from the commencement of the "Gentlemen and Players" matches down to about the year 1867. Among the gentlemen players, in no period of the history of cricket has such a wonderful batsman appeared as Mr. W. G. Grace, whose scores during several seasons have been most remarkable. His name will probably be remembered as long as cricket is played in this country. It is thought by some that batting generally has by degrees become so superior to the bowling, that before long it will be necessary either to enlarge the wicket or diminish the bat; but this question can stand over for some time to come. There is, however, one matter of reform which has been brought forward from time to time, and which might well be carried out, namely, the increase of the number of balls in an over from four to six, whereby much time might be saved in grand matches. Inter-county cricket has been much developed during the last few years, ten counties taking part in it in first-class matches during the season of 1875, and about the same number in the two following seasons. In the former year Nottinghamshire was certainly the most successful; while last year Gloucestershire, not having lost a single game, gained the first place, which it has maintained for the season of 1877.

As an outdoor game for the winter months, Football has of late years become the most popular. It can claim a most respectable antiquity as a national pastime, though Strutt says it does not appear among popular exercises before the reign of Edward III. In A.D. 1349 the game was prohibited by the public edict, not perhaps from any particular objection to the sport itself, but because it was thought to co-operate with other favourite amusements to impede the progress of archery. The edict, however, seems to have been disregarded; but during the sixteenth and seventeenth centuries, the rough character of the sport appears gradually to have brought it into disrepute. James I, considering the "danger attending the pastime" made

proclamation as follows:—"I debarre all rough and violent exercises as the football, meeter for lameing than making able the users thereof," an injunction which would meet with little favour in this latter half of the nineteenth century. But football never became obsolete, and for the last two hundred years has always found a home at our great public schools, Eton, Harrow, and Rugby boys having been specially addicted to the game, which, in its season, creates as much enthusiasm as cricket and boating do in theirs. Still for very many generations it remained a boy's game, and was supposed to be put away with other "childish things." Now, however, all is changed. Football is definitely revived. It flourishes more vigorously than ever at all our public schools, and is eagerly played at all our universities. Nor is it confined to our youths in *statu pupillari*. It has become the winter national game of all classes, and almost all ages, as much as cricket is the national game during the summer months. In Scotland it is even more popular than in England, and it has been most eagerly taken up in Ireland. As a game for the winter months, when there is a great temptation to shirk out-door exercise, football is without a rival. There is no weather short of a very hard frost which interferes with it. After the players are stripped there is no standing still, except for the unfortunate goal-keepers, who, by the way, are not wanted in the Rugby Union game at all. The game is one continuous movement, and played vigorously for an hour, or even two hours, affords as good exercise as can even be imagined. The moral discipline of the game, too, if we may venture to use so high-sounding a phrase, is not to be despised. It is not a bad school by any means for the rough work in life, in which self-discipline, hard work, and good temper are requisites of success. The football player, in these days, when the game is one in which supreme skill as well as pluck and physical force is needed, must be a disiciplined player, giving himself up wholly to that particular work in the game to which he has been assigned by the captain of his side, often sacrificing an opportunity of distinguishing himself, and avoiding what scientific players well know by the name of "Gallery" play. During the last two years, owing to one or two fatal accidents, a great deal has been said about the inherent dangers of the game. Both the Association and the Rugby Union games are certainly of a roughish character, and perhaps better fitted for boys than men; but on

the whole, serious accidents are so few in the course of a season compared with the number of persons who join in the pastime, that it can hardly be fairly objected to on the score of danger. Of the two, the Association game seems the least open to objection in this particular; and consequently there are many persons who would wish to see it supersede the Rugby Union game.

A few years ago an athletic pastime or game under the name of Polo was offered to us, and from the first eagerly accepted. Its introduction may be dated in 1872, and within two years it had established itself among those classes who could afford the expensive luxury of a polo pony, which, on an average, cannot be obtained for much less than fifty guineas. Whatever may be the etymology of Polo, the game is certainly of eastern origin, though there may be some doubt as to the country in which it was first played. It was popularised among our military quartered in India by the Sikh cavalry regiments, and has long been a favourite pastime in that country. The 9th Lancers have the credit of introducing it into this country, and the only wonder is that it was not introduced earlier. As to the game itself, it has, for the purpose of familiarising those who have not witnessed it, been described by the short phrase of "hockey on horseback," an expression which, though it would hardly be accepted by aristocratic players, very fairly epitomises it. It is like hockey in that it is played with sticks somewhat resembling hockey sticks, and that the object of the rival sides is to drive a ball through the adversary's goals at either extremity of the ground. But beyond this the resemblance ceases. The polo ground is many times larger than a hockey ground, the required space being about a quarter of a mile in length and two or three hundred yards in width. The skill, too, required in polo is far beyond that required in hockey; and in the matter of picturesqueness and interest for spectators there is no comparison. As to the danger to the players and cruelty to the miniature horses, it is no greater than in many other sports. Accidents will occasionally happen, as they do in other pastimes, but they are not so numerous as to destroy the legitimate zest which a spice of danger, as in the hunting field, gives to sport and athletic pastimes. Polo, like many other sports, requires and conduces to the possession of many desirable qualities. It requires a quick eye, a good hand, good muscles and condition, and above all, command of temper; and who shall say that these qualities are not desirable in an Englishman? Altogether, we may be well satisfied to see Polo

added to the long list of our national sports and pastimes, even though, as in the autumn of 1877, a fatal accident may sometimes result.

Archery, it need hardly be said, is a very old amusement in this country, and has always been peculiar to it, no other continental nation, as far as we are aware, having ever adopted it as a pastime. Modern archery is a revival of the last twenty years, and most popular has it become. It was thought that Croquet would have been a formidable rival to archery, and, indeed, for a few years after the introduction of that game it really was so, and archery suffered a partial decline. But it has re-asserted itself, and if we might hazard a prophecy, we should say that the bow and arrows will long outlast the mallet and balls. However, there is room for both pastimes. Each has its particular merits, and both some merits in common. They both give too, excellent opportunities for social gatherings, especially in the country, and great resources for ladies, to whom so many of our out-door amusements are denied.

There are a variety of other games more or less in vogue among us, but which we can hardly do more than enumerate. Among them is Bowls, an old English pastime, to some extent revived in modern times, and popular enough in certain northern districts. Then, again, there is a cluster of games to a certain extent similar, but of greater or less complication, such as Fives, Rackets, Tennis, and Lawn Tennis, to which may be added the "first cousin" of the latter, now becoming very popular, Badminton. In all of these a considerable amount of skill is required; they afford a good field for generous competition between the players, and excellent opportunities for wholesome exercise. The attempt at the revival of Hockey during the last two years may be noticed, but notwithstanding the formation of many Hockey Clubs, especially in the neighbourhood of the metropolis, it does not seem probable that the game will be thoroughly re-established. As a winter athletic pastime it has too strong a rival in Football.

The two popular Scotch games of Golf and Curling are excellent in their way, and the former has established itself in many parts of England, where a sufficiently large space of open ground has been obtainable. It is almost impossible for Southerners unacquainted with the game to imagine the enthusiasm with which it is played in Scotland, where it may be truly called the "national" game, ladies joining in it with great

zest. Hardly less popular among the Northerners is Curling, this pastime having been followed in Scotland for many centuries. The "Grand Caledonian Curling Club" alone numbers over 12,000 members.

In concluding our remarks on games of competition, we need only say that, like field sports, they are conducive to bodily health, and so, indirectly, to a wholesome temperament of mind, while the careful practice they involve with a view to proficiency, and the competitions themselves, are by no means to be despised as a kind of moral discipline.

III.—We now come to the third division of our subject, which we have called by the name of AMUSEMENTS and PASTIMES, as distinguished both from Field Sports and Games. The Amusements we are now about to notice may be divided into those of an athletic character, such as Rowing, Bicycling, Swimming, and Skating, and those of a non-athletic character, such as Yachting and Coaching. We have made this distinction between Amusements and Games, because into the latter the element of competition almost necessarily enters, whereas the former can be, and to a very great extent are, indulged in without competition, though they are frequently made the vehicle of it. In other words, our Games are played between individuals or sides for the immediate purpose of competition, or practised more or less with a view to the players fitting themselves for competition, whereas, what we have denominated Amusements are followed by tens of thousands of persons for the sole purpose of out-door recreation. Both, however, come equally under the general and comprehensive heading of our article—"National Sports and Pastimes," and, with Field Sports, exercise an influence on the national character.

Of Athletic Amusements the most popular and extensively followed is Rowing. It has been a very favourite pastime among us for many generations, but till within comparatively recent years has hardly been acknowledged by any other nation. At our Universities and public schools, where the contiguity of a river affords the opportunity, rowing has long been the most favourite recreation; but it is by no means confined to a particular class or locality. Wherever water at all available for the the purpose is to be found, there is rowing in abundance indulged in by all classes. One need only visit the Thames on a fine summer's afternoon and see the swarms of rowing boats, say between Putney and Teddington, to be convinced of the

immense popularity of this pastime; and generally speaking, it may be safely stated that we have not a more healthful form of recreation in vogue among us than rowing, or one more worthy of encouragement.

Among modern athletic pastimes, none have had a more sudden rise and development than Bicycling as at present practised. The history of the machine used may be said to date from the year 1818, when the "Dandy" or the "Hobby Horse," a French invention, found its way across the Channel; but this was not a bicycle at all in the modern sense of the word, and like many metaphorical "hobby horses" was soon ridden to death. In 1862, the first definite approach to the excellence of the modern machine was made, and American inventors, following probably in the wake of the French, produced several really good types of bicycles, but for some years few had wheels of a diameter of more than 30 to 35 inches, and their weight ranged from 80 lbs. to a hundredweight. The genuine highly bred instrument now in use does not date back much further than 1870, since which date machines of all sizes have been produced, with wheels of 35 to 60 inches diameter, and weighing from 35 to 50 lbs., and are so skilfully constructed, and the art of riding them has arrived at such a corresponding pitch of perfection, that truly marvellous results can be accomplished both for short and long distances, as the records of the past year abundantly testify.

Swimming, though in one sense a mere physical art, may also be looked upon as an amusement or recreation, and from various points of view is strongly to be recommended. To one who has acquired the art, the practice of it is a source of the keenest enjoyment; and it would be hardly necessary to insist on the advantages of acquiring it, were it not for the fact that they still seem to be practically unrecognised by a great portion of the community. It is true that matters in this respect have of late years improved in some large centres of population, and particularly in the metropolis, where the increased number of baths, the establishment of swimming clubs, and the enlarged facilities for bathing in the Parks, have conduced in a marked manner to extend the knowledge of swimming. Still, the opportunities for learning the art are not nearly so numerous as they ought to be. When we consider the fearful number of deaths which occur from drowning, the Registrar-General recording them as over 2,500 in England and Wales annually, and the painful catastrophes which are always associated with

the boating and bathing, or, as some ominously call it, "the drowning season," the advantages—nay, the necessity—of learning the art of swimming can hardly be exaggerated. Fortunately it is one easily acquired, and when acquired, not easily lost. Children, too, acquire it even more readily than adults. Captain Webb's feat of crossing the Channel in 1875, has given a great impetus to swimming, and within the last two years the number of those who have learnt this useful art has greatly increased. The action of the London School Board in providing facilities to have children taught to swim is much to be commended.

Of Skating on natural ice it is hardly necessary to say more than that, as an athletic pastime, it is as pleasurable as it is eagerly indulged in when opportunity offers, which unfortunately is not so often as might be wished. It presents an unbounded field for skill, and as a healthy and invigorating recreation is almost unequalled.

Of all our pastimes of a non-Athletic character, none have made such rapid progress as that of Yachting. In the year of the Battle of Waterloo, when the Royal Yacht Squadron was established, the fifty noblemen and gentlemen who enrolled their names on the list at Cowes, represented the yachting community of the whole kingdom, indeed of the whole world. Sixty years have brought about a very different state of things; and so rapid has been the growth of a taste for yachting, that the number of pleasure vessels that now fly the British flag exceeds 2,000, with an aggregate tonnage of 60,000 tons. These yachts give employment in the summer months to about 3,500 seamen, and it is no exaggeration to say that, for seamanship and general smartness, the British yacht sailor is without his equal. It is a matter of no little concern that yachting, as a sport and pastime, should not only retain, but also increase its popularity as one of the most healthful and least objectionable of all our pastimes, and that our white-winged butterfly fleet should each year become more and more a nursery for first class sailors.

Driving Four-in-hand, or "Coaching," as it is more familiarly called, has become a very favourite amusement during the last few years among the wealthier classes of the community. With the decline and death of the old coaches, which were gradually superseded by the railways, came the decline of the old "whips," with no rising generation to hand on the art. The art of "tooling" a four-in-hand seemed threatened with extinction, but, as in many other things "ecclesiastical and civil,"

there has of late years been a revival. Private drags have become popular; the Four-in-hand and Coaching Clubs have given an impetus to the restoration of the ancient art, and seasons of summer coaches from London to Brighton, Tunbridge, Guildford, and elsewhere, have given opportunities of a coach journey to the lovers of the "old style," of which they have most willingly availed themselves. Gentlemen of position and good means, and members of the aristocracy, have been the prime movers in the late revival, not being ashamed for the nonce to be of the number of those "who handle the reins." During the last few years the number of "Summer" coaches leaving London daily and returning in the evening or the next day, has averaged nearly a dozen, while the coaching mania has developed itself also in provincial districts, and has even extended to Ireland.

It might possibly be expected by our readers that either here or elsewhere we should make some mention of Horse Racing. But as this is neither a Field Sport nor a Game, nor an outdoor recreation in the sense in which we have been viewing recreation, we omit it. Interesting and exciting as Horse Racing may be, those who take a part in it as an amusement merely do so as spectators, and not as active participators in it. Of course, in a certain sense of the word, racing is a "national sport," indeed *the* "national sport;" and as such has an influence which permeates more or less through almost all classes of society More than this we do not care to say. The uses and abuses, the evil and the good, of the Turf, is a subject of very wide importance, and one well worth discussing in any consideration of certain recreations and amusements of our people other than those of the class with which we are dealing specially here.

IV.—The fourth division of our subject, viz., ATHLETICS, need not detain us long. The term comprises Walking, Running, Jumping, Putting the Weight and the Hammer, and some few other media of competition, which make up the programme of the numerous meetings for "Athletic Sports." Boxing, Wrestling, Fencing, and other exercises of skill, which are now so frequently exhibited both by professionals and amateurs at entertainments generally known as "Assaults of Arms," can hardly come within the scope of our subject, which we have confined mainly to out-door sports and pastimes. The same remarks apply to *Gymnastics*, or pure palæstric exercises, which have concurrently increased in popularity.

Into the details of the various forms of Athletics we do not

propose to enter. The passion (and this is not too strong an expression) which has been evinced for them during the present generation of young men, and is still dominant, is part of that remarkable demonstration in favour of all kinds of sport, pastimes, and recreations of a more or less athletic nature, which marks the present era of our national life, and which, we have more than once suggested, is on the whole conducive to the physical and moral health of the community, at least to that portion of it specially concerned in the matter, namely, the upper and middle classes. To such a high point of excellence have Athletics now been brought, that we have little doubt but that our modern feats of pedestrianism, jumping, and other bodily prowess, in which strength, activity, pluck, and endurance are called into requisition, far exceed those of which athletes of old were capable. And it is not by a few only among us that this excellence has been attained, but the capacity for good performances of various kinds is very widely distributed. Athletic clubs abound all over the kingdom, and at the present time there is hardly a large mercantile establishment in London or the provinces employing young men which has not its "Athletic Sports," so that it has come to pass that the great body of our young men, both of the upper and middle classes, give themselves more or less to athletic training and exercises.

There are many questions besides those incidentally touched upon in the course of our remarks, which naturally suggest themselves, and which we would willingly discuss if space permitted. For instance, there is the question as to the effect of severe training and severe competitions in connection with boat-racing and pedestrianism for instance, on the ultimate health of the individual; and that of the effect of the present mania for sports and pastimes on the intellectual studies of young men. But these and other questions we must leave. Our chief object has been to call attention to, and to leave a record in the series of articles in the *Companion*, of the remarkable development of the pursuit of all kinds of out-door sports, pastimes, and athletic recreations which is manifesting itself during the present period of our history, and cannot fail to influence the national character. The history of more than one ancient nation shows us that with the increase of its material greatness and commercial prosperity, the love of luxurious living and pandering to the mere bodily appetites crept in, and the love of manly sports and pastimes and athletic exercises gradually decayed; and further,

that from that time the decay of the nation began, and its true virility by degrees degenerated. There is nothing strange in such a phenomenon; on the contrary, it may almost be looked for, and there are not wanting instances of it in modern times. Happily, in this country a contrary phenomenon is actually now being witnessed. Concurrently with a great increase of material prosperity, and a marked indulgence in bodily luxuries and appetites, we have among the young and even middle-aged men of this generation an ardent and growing pursuit of all kinds of out-door sport and athletic games and pastimes. To this, in no slight measure, we attribute the fact that the manliness of the nation is as strong as ever, notwithstanding adverse influences at work among us, that the Anglo-Saxon is still foremost in all great enterprises, still the colonizer and subduer of the world, and that the great bulk of citizens still preserve that grand desideratum, the *mens sana in corpore sano.*

OUR INDIAN EMPIRE.

Possible but remote peril to our possession of India, and the suffering which has come upon its people from famine, are two circumstances which render it more than usually opportune to lay before the readers of this Annual some statement of the most recently ascertained facts relating to the value and condition of this great country, its progress under our guidance, and its prospects for the future.

To us, India is a unit, one country; but in all senses except in being ruled over by one sovereign, Queen of England and Empress of India, it is several. In geography it is several, in peoples several, in religions several. And it has, no doubt, been part of our wisdom in holding and governing India that we have seen this, and not been either unwilling to recognise it, or anxious to alter it. In order to be able to govern firmly, it is not necessary to reduce to uniformity; substantial order is all that an English directing mind asks, caring little for such mere symmetry as serves only to satisfy a sentiment. Under the unity of government which enables us to hold and administer India lies, scarcely glossed over, the most prominent—it may be said the most healthy—diversity.

Nor is our estate in India, to use a legal term, all of one quality. We administer directly, and hold as it were in free-

hold, the three great presidencies (Bengal, Madras, and Bombay), the North-West Provinces, the Punjab, and some other districts; secondly, we have territories under our immediate control, the chief being Oude, Berar, Coorg, and Mysore; thirdly, we assume a political supremacy and an attitude of protection over a number of states, the immediate rulers of which are native princes; the chief of those last named are Gwalior, Indore, the Rajput States, Cashmir, Nepaul, Hydradad, and Cuttack.

That we cannot afford to lose India by conquest is obvious; and if for no other reason, because she owes us some 120,000,000*l.* in money lent, nearly half as much invested in her railways, and nearly a quarter as much additional embarked in banks and merchant companies. All, or nearly all, this capital has been found by England; and the loss of our Indian empire would therefore mean, in hard cash, the loss of two hundred millions of pounds. Common sense forbids trifling with such a possession, even if we shut out of sight all but money considerations. It is hoped, however, that before coming to the conclusion of this paper, the reader will see other and higher reasons for doubting whether the ownership of this great aggregation of Eastern states could be changed with advantage, either to itself or to the world in general. If we take much from India, it is because we give her much. The eye of her English rulers is on her various wants, and her varied capabilities; and on nearly every head which pertains to the stable and progressive good of a country, something is being done for our imperial possession, which both enables and entitles us to take some substantial benefit in return.

The *Foreign Trade* of British India represents now over 100,000,000*l.* a year; the actual total in 1874–5 was 100,691,249*l.*; and this had been reached by steady development, as under:—

	1872–3.	1873–4.	1874–5.
IMPORTS:—	£	£	£
Merchandise	30,473,069	31,644,697	34,645,236
Treasure	4,556,585	5,792,534	8,141,046
Total Imports ... ... £	35,029,651	37,437,231	42,786,282
EXPORTS:—			
Merchandise	55,227,495	54,960,778	56,312,246
Treasure	1,273,979	1,879,071	1,592,721
Total Exports ... ... £	56,501,474	56,839,849	57,904,967
Total Trade ... ... £	91,531,128	94,277,080	100,691,249

A glance at the last row of figures will show their growth; and it will be interesting to add in what proportions the trade was distributed amongst different quarters of the globe. The distribution of the last total of 100,691,249*l.* was as follows:—

	Imports.	Exports.	Total.
	£	£	£
Europe	35,102,772	35,505,546	70,608,318
Asia	6,518,469	18,622,775	25,141,244
America	193,506	2,177,418	2,370,924
Africa	737,901	1,463,692	2,201,593
Australasia	233,634	135,536	369,170
Total ... ... £	42,786,282	57,904,967	100,691,249

More than six-sevenths of the first item—Europe—is trade with the United Kingdom. Of the Asiatic trade a large portion is with China; in 1874–5 the trade of British India with China was:—Imports, 2,957,001*l.*; Exports, 11,750,802*l.*; Total Trade, 14,707,803*l.*

As regards the further increase of the foreign trade, not much is open for a government to do, in regard to countries beyond seas. There is no special fiscal hamper upon export and import; the chief ports of India, in fact, do a very fine business, as some figures will show. In 1874–5 the imports of Calcutta were 19,729,843*l.*; its exports 26,974,414*l.* The increase in the export of tea from this port is steady, and the trade seems likely soon to rank second to opium. The value in 1874–5 was nearly two millions sterling. Cotton goods represent the value of about half of the whole imports. Much merchandise comes to Calcutta now through the Suez Canal; the following shows its value for three successive years:—

	£
1872–3	16,556,519
1873–4	18,849,585
1874–5	21,611,525

The share of Madras in the total Indian trade of 1874–5 was 16,274,922*l.*, of which the imports were 6,617,085*l.*, the exports 9,657,837*l.* For Bombay the figures were:—Imports, 19,879,567*l.*; Exports, 27,282,503*l.*; Total, 47,162,070*l.* In connection with the Bengal trade, it is to be mentioned as a curious fact that the old boat traffic keeps itself up tenaciously, in spite of the competition of the railways. The traffic on the rivers of Bengal, the official reports show, is from its magnitude and variety quite unique. Hundreds and thousands of craft of all sizes are engaged in the inland carrying trade, and the navigation is

remarkably skilful. The business has not, as was expected, been largely diverted to the railways. For instance, the water route which competes with the Eastern Bengal line is 250 miles long, and the railway route 156 only; yet the traffic remains chiefly with the old water route. Partly this is believed to be due to high rates on the railway; it is also partly due to habit, which in an Eastern country is not easily broken up, even by self-interest.

It is more in developing trade with neighbouring inland countries that the Government of India is now occupied. Efforts have especially been made to open up better communication with Thibet, the best and shortest route being that over the Jeylup Pass into the territory of Choombee. Merchandise, however, by this route, though it is the best, has to be carried for 56 miles (between Fedong and Jeylup) on the backs of men at present. In spite of the bad communication, goods to the value of 17,130*l.* were sent to Thibet in 1874–5, and Thibet sent back the worth of 7,505*l.* The difference, 9,625*l.*, is said to be paid by the Thibetans in British rupees, which they obtain by selling cattle in Assam and Nepaul. There are other tributary streams of merchandise which bring up the total trade with Thibet to over 40,000*l.* a year. In connection with this traffic, Dhumsong has been selected as a site for an annual fair and centre of trade between the hills and the plains. The indigo and tobacco offered by India are said to be much appreciated by the Thibetans, who, however, are somewhat shy of coming down from their hills, owing to a dread of cholera and fever, and the heat, which last tells upon them as accustomed to a more bracing climate.

Singularly enterprising efforts have been made to open up trade with Eastern Turkestan, but as the road to this country lies "over the roof of the world," as the natives express it, its development is not rapid. The journey is long, the altitudes to be crossed enormous, blinding and arid tracts must be patiently traversed, and supplies of food taken for many weeks. Sir T. Douglas Forsyth made, a few years ago, a most romantic journey, as Government Commissioner, to Yarkund, the capital of this great elevated tract, and concluded a most equitable trading treaty; but the difficulties of transit are too much for the growth of the trade, which, after reaching about 60,000*l.* in 1873, and increasing (exceptionally) in 1874–5 to 125,000*l.*, is since reported as never likely to be very successful.

A great improvement has been made recently in the trade route between Khorassan and British India: the result has been to develop the traffic from virtually nothing to 35,000*l.* in 1874–5.

It is a common complaint of our home Parliament that it takes no sufficient interest in the *Finance* of India. An Indian budget generally finds few listeners, and short discussion by a limited knot of members. This can hardly be owing to any special complication in the fiscal system itself; for Income Tax having been given up in 1873, the principal heads of Indian revenue are now but six, namely, Land and Fisheries, Opium, Salt, Excise, Customs, and Stamps; while the chief heads of expenditure are about as many.

The following is a statement for 1874-5 of the Ordinary Revenue and Expenditure in India and England, compared with two preceding years :—

	1872–3.	1873–4.	1874–5.
	£	£	£
Revenue	50,219,489	49,598,253	50,570,171
Expenditure	46,343,316	49,968,569	49,006,412
Guaranteed Interest, less Net Traffic Receipts	2,110,501	1,437,352	1,244,562
£	48,453,817	51,405,921	50,250,974
Surplus	1,765,672	—	319,197
Deficit	—	1,807,668	—

The principal heads of Revenue are shown in the following summary :—

—	Land Revenue, including Fisheries.	Opium.	Salt.	Excise.	Customs.	Stamps.
	£	£	£	£	£	£
India (General and Political)...	61,559	—	70,138	17,194	—	19,081
Madras	4,635,487	—	1,331,569	605,892	321,025	492,878
Bombay	3,688,076	2,953,804	797,122	378,099	739,068	463,936
Bengal	3,645,725	5,602,825	2,676,363	563,467	1,091,077	895,452
Punjab	2,004,595	—	841,253	97,685	86,387	240,381
North-West Provinces	4,259,179	—	476,612	203,606	35,901	355,492
Oude	1,355,025	—	1,688	73,047	2,346	92,894
Assam	333,503	—	—	137,869	—	48,488
Central Provinces	584,919	—	18,524	128,629	10,402	92,309
British Burma ...	728,425	—	14,032	140,655	392,273	57,131
Total ... £	21,296,793	8,556,629	6,227,301	2,346,143	2,678,479	2,758,042

By far the greatest proportion in this enumeration belongs, it will be seen, to the *Land Revenue and Fisheries.* From time immemorial the Government has, in India, been considered the owner of all land, which it has, in one form or another, let to the inhabitants. The produce of the Land Tax constitutes an index, more or less accurate, to the development of the agricultural wealth of the country. Bearing this in mind, it is interesting to know that a "steady growth of the land revenue" is reported in Bengal; in Madras it is increasing also, partly from improved collection, partly from extension of cultivation. From Bombay the last accounts were less satisfactory.

Indirectly, it is gratifying to note, the Land Tax in India has been of great benefit to landed property itself. In order to levy a land tax rightly and fairly, a government must ascertain, at any rate roughly, the boundaries and values of holdings; must make, indeed, a kind of survey. The result is an official record of information which forms an appeal in disputes, and tends to assure a title. In a taluka in the Deccan the effect of a "settlement" has been to more than treble the Government revenue, and the value of land rose in still greater proportion. Land which was unsaleable before fetched, after some years, from 10 to 52 times its assessed value.*

In the Punjab this process of settlement was recently still in progress. According to official reports, the assessments are readily accepted by the people, and collected with the greatest ease. There could be few things more significant of a happy condition of a country, so far as it goes, than that taxes are "collected with the greatest ease." It is added in reference to this province, that a still more important advantage is the security of tenure conferred by the preparation of a record of rights. In each of the Punjab districts where settlement operations have been concluded there has been a great increase of cultivation, and a rise in the value of land.

In the North-West Provinces the Land Tax is growing; the collection in 1874–5 amounted to 4,165,494*l.*, against 4,130,102*l.* in the previous year. The result of a revision of assessments in 1874-5 was an increase of 30,307*l.* to an expiring demand of 298,231*l.*

On the other hand a new settlement of the Land Revenue in Ajmere was concluded in 1874–5, by which the demand was fixed at 19 per cent. less than before; the old assessment being judged excessive, and having been found so great as to im-

* "Moral and Material Progress of India, 1874-5." (Parliamentary Paper).

poverish the people. In Berar, the same year, 455 villages were "settled" for Land Tax, and there was a consequent addition to the revenue of more than 10,000*l.*

There are, it must be mentioned, land difficulties in India. In the Bengal Presidency a standing landlord and tenant quarrel exists, just as in Ireland. Zemindar and ryot are the terms respectively for landlord and tenant, and by certain rent laws of 1859 and 1869 a sort of tenant-right was created which made ryots non-liable to ejectment so long as they paid their rent, and only liable to increased rent by decree of a court of justice. There are continual disputes and suits as to increase of rent. The laws do not allow enhancement of the rent in respect of increased value due solely to the efforts of the tenant; but the zemindar has a claim to share in increase of value which may be independent of the ryot's operations. This the ryot often resists; combinations are formed on both sides, and much ill-feeling arises, and many disputes.

In Orissa there has long been similar trouble between zemindar and ryot in regard to certain "cesses" or irregular dues which the landlord has exacted without strictly legal right from an ignorant tenantry. Like some similar charges on land in other countries, these cesses, arbitrary in origin, have become virtually legal by long custom, and the complaint against them is not entirely reasonable, most ryots having come into their holdings with a knowledge of the customary "cess." This minor land question has recently received the special attention of the authorities.

Some anxiety has been caused for years past in Bengal by an alleged large indebtedness of the cultivating class, and it has been said that the land is getting into the hands of money-lenders, whose ordinary rate of interest is as high as 37½ per cent. per annum. All that can be said as regards any improvements on this head is that recent inquiry elicited that the indebtedness was not so serious as it once was. A similar trouble has been conspicuous in the Bombay Presidency. An Act reducing the time for recovery on money bonds from twelve to three years came into force at an unfortunate moment, when there was a great deal of debt, and produce was at low prices. Money-lenders saw their opportunity, used the law and the courts to press their legal but exorbitant claims, and the result was, as at a similar crisis in Ireland, the selling up of many properties. In the Deccan the ryots rose against the oppressive action of the money-lenders, and openly destroyed bonds which,

though good in the courts, were grossly extortionate. It has been an anxious question how far it would be right to interfere in this state of matters for the protection of the ignorant ryot against the shrewd capitalist, or leave matters to adjust themselves, and let shrewdness come to the top.

In the Punjab there has recently been also a great number of transfers of holdings of land; but a little consideration shows that, under the circumstances, this is, here at least, no unhealthy sign. Very few of the transfers have been other than voluntary; instead of being the result of debt and seizure, they have been the consequence of increased voluntary traffic in land. The bulk of the land sold passed into the hands, not of money-lenders, but of agriculturists, and at the close of 1874–5 the total of land under mortgage did not exceed 13 acres per square mile of assessed area. The area of land brought under cultivation in the Punjab during the last few years has been as follows:—

	Acres.
1871–2	17,928,140
1872–3	19,771,986
1873–4	19,724,540
1874–5	19,968,976

These figures alone tell a tale of gladdening progress.

The mention of *Opium* as a great source of Indian Revenue will no doubt touch a tender point in the consciences of many. It will be seen that, out of a total revenue in 1874–5 of 50,570,171*l.*, this drug was the means of raising 8,556,629*l.* It does not, however, appear that the operations of Government with opium, as at present conducted, lead to its increased consumption: it must also be remembered that opium is one of the most frequently used drugs in the whole catalogue of medicines.

It need scarcely be said that one of the most efficient, as well as most equitable, means of holding a conquered country—for such, not to blink at the matter, we must call India—is to associate, in a proper degree, its own population in its government. This we have done to some extent in India, though cautiously. A considerable addition was made in 1872–3 to the strength of the Native Civil Service in the Bengal Presidency, and annual examinations, instituted by Sir G. Campbell for the subordinate executive, attracted more candidates than could be employed. Sir R. Temple reported, in 1874–5, that much had recently been done to improve the position and prospects of the Native Civil Service, and the coincident elevation in tone, fitness, character, and reputation among the upper grades in all branches

and departments was "such as to cause hope and thankfulness to spring up in the mind of every well-wisher of the country." As employment could not be found for as many native young gentlemen as succeeded in passing the examination, the preliminary qualification for admission to the examination was raised, none as a rule being allowed to compete for the higher class of appointments unless he has taken an university degree.

At the close of the year 1874–5 a measure which further extended the policy of employing our subjects in governing their fellows was sanctioned for the Punjab by the Secretary of State, the object being, without introducing any radical change into the administrative system, at the same time to relieve the chief executive officers of an excess of judicial work which had been found to hamper them, and to give increased employment in the judicial administration to natives. The measure comprised (1) the attachment of a Native Judge to each sub-district of the Punjab, where the number of suits was large enough to warrant it; and (2) the appointment in some score or more of districts of an assistant having concurrent jurisdiction with the Deputy Commissioner. This course, it is officially reported, has greatly strengthened the Executive Administration by dissociating executive officials from all connection with, and interest in, the judicial administration of their charges; it has, at the same time, extended the sphere of native employment, and made justice more accessible to the lower orders.

In the North-West Provinces, steps having a similar object and result have recently been taken. With a view, in 1874–5, to securing to well educated natives a definite share in the higher posts under Government, it was decided that the offices of Assistant District Superintendent of Police, Inspector of Police, and Extra Assistant Commissioner in the Jhansi Commission, would in future, as a rule, be reserved for natives of the province.

Whether we shall ever be able to govern India entirely on English home principles may perhaps be doubted. Native character is the ingrained growth of centuries, and must be taken into account, as indeed it is, by successful administrators. Innovation, even in a direction which we consider right, must be cautious. Meanwhile it is a sign of progress that the administration of India finds itself able, from time to time, to make some advances towards English self-government. The introduction of an elected element into municipal bodies will be

presently referred to; the increasing employment of natives in the Civil Service has just been mentioned; an important step in the same direction has been the recent policy of associating honorary magistrates with the salaried judges in the administration of criminal justice. This has been done, notably, in the Bengal Presidency; and in Madras the experiment was recently made of appointing, in 36 towns, a bench of honorary justices, with a salaried magistrate as chairman. The same system has been commenced in the North-West Provinces; and in the Central Provinces there were in 1875 about 80 honorary to 124 stipendiary magistrates. The report of the result in this last-mentioned instance is that cases are promptly disposed of, the procedure is correct, and appeals few; but there was a tendency to award inadequate punishments.

A great indirect evidence of the progress of a country is the growth of *Municipalities*. This means, not only, though chiefly, the growth of villages into centres sufficiently important to become townships, but also a development of local organization, a regularization of local action, and an increase of local self-dependence. The most recent official reports tell us that the Municipal System has now been extended to all the principal places in the Province of Bengal, and the raising of taxation for local objects is becoming more and more understood and appreciated by the educated natives; while the exercise of municipal functions is undoubtedly raising the character of the upper and middle classes of the people. Sometimes, as in the English provincial districts, local native newspapers call attention to the need of this or that municipal or sanitary work; there is little or no complaint of local taxation, and the native members of the municipal committees are stated to perform their duties with a fair degree of public spirit. In Calcutta, a demand has arisen among the ratepayers, which cannot but be considered a healthy sign; namely, that municipal commissioners should be chosen by election; and for the future only a minority will be appointed by the Government, the rest being elected by the ratepayers. The Madras municipality having recently requested the sanction of the Government for similar appointment of commissioners by election, the Government authorised elections, as vacancies might occur, until half the members should be elected by the ratepayers. At the same time, a limited right of electing members was extended, as an experiment, to ten other towns in this presidency.

In the Punjab the Municipal System was extended, in 1874–5, to 63 towns; it had previously existed in 128. In five of the largest of the Punjab municipalities, in which there is a considerable English population, the corporation is entirely or partly elective; in the others the Government selects. It is, perhaps, a sign of less rapid progress in this province, that the system of election of municipal officers has not further extended itself. For it is owing to no unwillingness on the part of the Government; on the contrary, the Lieutenant-Governor of the province has taken several opportunities of making it known that he is ready to grant an elective system to any municipality in which it is really desiderated, and where there is a reasonable prospect of the franchise being honestly and intelligently exercised; but the people themselves, except in a few localities where European ideas have been introduced, do not understand election, and, perhaps not so unwisely as we might think, are reported to "prefer that the selection of their spokesmen shall be left to disinterested authority, rather than to the capricious or corrupt action of numerical majorities."

Under an Act passed 1873–4, the first Municipalities (in the proper sense of the term) were established in British Burma. The seven most important towns were incorporated, the municipal committees being appointed at the outset by selection; and these bodies were, according to last accounts, "showing considerable interest in their corporate duties."

Probably it will come as a surprising piece of information to many that the *Octroi System*, which an Englishman usually considers a benighted continental practice, prevails all over British India.

It was truly enough observed, in a resolution recorded by the Government of India nearly ten years ago, that "it is to little purpose for the Imperial Government to reduce or abolish customs duties in the interests of trade, if municipalities are permitted to levy duties on articles of commerce passing through their limits." Obviously the result would be that the township, instead of the Government, would be levying customs. It has, therefore, been an object of administration in India for some years to restrict the Octroi to articles consumed in the town, and thus not to hamper transit trade. But this is not easy to accomplish; several expedients for doing it are described in recent official reports in terms which show that the result is only a qualified success; and we may perhaps say that in the aboli-

tion of Octroi Duties lies a field for a considerable piece of future progress. Already it may be noted as a symptom that in the North-West Provinces the Octroi has been abolished or modified on account of the patent damage which resulted to the transit trade.

At present, however, 89 per cent. of the revenue of the 81 municipal towns in the North-West Provinces is derived from Octroi Duties; and in 42 out of 56 municipalities in the Central Provinces Octroi is the principal, often the sole, source of corporate income. It is satisfactory to know that in the case of the seven municipalities established recently by an Act passed three years ago, the Octroi Tax was in no instance resorted to.

Connected, in a rough kind of inverse proportion, with the satisfactory progress of a country is the prevalence of *Crime*. It may not be true that this is an accurate gauge of progress, but it is to be taken into account. The laws of Crime, as viewed in the aggregate, are obscure; new, and perhaps injudicious, legal enactments, increased police efficiency, temporary want or plenty, are some of many disturbing causes which render it misleading to deduce progress or the contrary from criminal statistics. Still, as has been said, they bear a rough inverse proportion to national welfare.

The recent reports of Crime in British India are of a chequered kind. The characteristic criminal disease of the country is Dacoity, a local name for what we call brigandage in Italy or Greece, and near akin to the organized highway robbery of earlier times in England.

This criminal disease seems as yet to defy eradication, though it will doubtless be extirpated in the end. A special analogy exists between the moral diseases of nations and the physical ailments of individuals; and one of the points of this analogy is the necessity of applying to many local diseases not only local but also constitutional treatment. A band of thieves may be broken up as an abscess may be lanced; but just as, to prevent other abscesses succeeding, the individual system must be purified and braced, so must the nation be treated with tonic remedies before such a plague as "Dacoity" will disappear. By recent accounts there was no immediate prospect of the dying out of this form of crime, which, as will have been seen from what has just been said, is an organized kind of outrage, implying combination for plunder. Bengal reports for 1874–5 say, "Dacoity is still carried on; the attention of the police has been

called to the fact that some of the old gang leaders remain at large." In Madras there was a slight increase in the number of dacoities, caused by an outbreak of this zymotic crime in the districts of Tanjore, Madura, and Trichinopoly. It is added, however, that "the detective success of the police in dealing with dacoity was more marked than in any previous year." In the Poona and Tanna districts of Bombay there was a similar outbreak the same year. No less than 47 "dacoities" occurred. Bodies of men entered and robbed villages with the utmost effrontery, and so intimidated the population that there was great difficulty in obtaining information against them. An armed police force of 175 men was sent against the robbers, rewards of from 100*l.* downwards were offered for the apprehension of the leaders; but the leaders escaped, and only eight members of the gangs in all were captured; these being sentenced to penal servitude for life, the plague, locally at least, was stayed.

Dacoities rose in the North-West Provinces that year from 99 to 120; in British Burma it was supposed by official reports for 1874–5 to be declining; but a subsequent outbreak, consisting of daring operations by a band called "the Pyagalay gang," cost the life of the officiating Inspector-General of Police, and upset the ground for hoping that the crime was dying out.

Chequered also are the most recent reports of Crime in general. As we have said, many circumstances render statistics of Crime insufficient for too close deductions; but recent reports to Parliament, after making allowances for disturbing elements in comparisons, show certainly no uniform improvement. For Bengal the account is that "after allowing for improved reporting, and for a change in the classification of certain offences by the amended code of criminal procedure, there was still shown a decided increase." This unsatisfactory feature is ascribed by Sir R. Temple to insufficiency of supervision over bad characters, the low degree of efficiency in the village police, and "the chances of escape which our judicial system offers to the guilty." This last reason is noteworthy. We are accustomed—almost alone amongst nations—to give an accused person something more than fair play, and the result, in England, does not appear to be other than good; it seems we carry the same lenient tendency into our administration of India, and perhaps the natives are not as fit for such a liberal *régime* as ourselves. It is, however, difficult to see how high chances of escaping conviction can increase criminal statistics, which, apparently, must be based upon con-

victions, not accusations. If based upon accusations they can scarcely be of much value.

In the Madras Presidency was reported "a great number of re-convictions;" which the official report remarks upon as "indicative of the growth of a distinct criminal population." But as this report opens with a statement that much attention has been recently given in the presidency to improved registration of known depredators, it seems quite possible that the apparent increase of re-convictions is but a result of the better knowledge of the antecedents of criminals. Otherwise we might have serious apprehensions at a suggestion that one of the three great presidencies was developing "a distinct criminal population." Here again figures must be read with discrimination.

A general decrease of Crime in the Bombay Presidency is mainly ascribed, perhaps with truth, to the effect of a plentiful harvest. In the aggregate—little as we like to admit the fact as regards the individual criminal—Crime is in a great measure the result of external circumstances, which, in fact, constitute temptation. The pressure of want produces, over a large area of population, thefts, as surely as a gale on the ocean will bring shipwrecks.

The recent Crime statistics for Sind are not satisfactory; but it is impossible to say how far an increase in the figures is apparent only, as there has been here an effort to bring the criminal classes under stricter control, and it may be only that more crimes are punished, not more committed. This, however, must tend, in the end, to lessen the number of crimes committed. There was here "an unsatisfactory increase in the proportion of re-convictions and of habitual criminals," and the Government has called attention to the necessity of making imprisonment in the case of habitual criminals sufficiently arduous and irksome.

The Punjab statistics show a steady decrease of serious Crime, which is partly attributed to improved working of the police. At the same time minor offences increased, but (says the official report) this was simply the result of multiplied local laws. It would be interesting to inquire how far "multiplied local laws" which created minor offences were a necessity, or the reverse of a benefit. Crime, in one sense, is the result of law; and an unnecessary law creates the possibility of crimes which are only such in name.

A large increase, both in petty and serious offences, and a large increase in the jail population, is the account from the North-West Provinces. Here again, however, is an illustration of the insecure ground which statistics of Crime afford for deductions. The Lieutenant-Governor of these provinces thinks that the apparent increase is due in great measure to improved action of the police in reporting offences; while another circumstance which goes far to explain the apparently dark feature of an increased jail population is that, by a recent Act, magistrates have had conferred upon them greater power to imprison accused persons, of bad character, who cannot give security.

Theft and burglary are described in official returns as "the normal crime" of Ajmere, where the latest reports show a material increase in almost every class of offence. In the Central Provinces a decrease is recorded, and in Oude a "large decrease." In British Burma, lastly, there was not only a rise in offences, but also an unsatisfactory decrease in the proportion of convictions to trials; so at least say the official reports, though the remark seems to presuppose that every tried person is guilty. There is stated not to be in British Burma that connection which is observed elsewhere between the prevalence of theft and the dearness of food. It may be permitted, perhaps, to doubt this, and to suggest that here, as we have shown to be the case elsewhere, modifying causes exist, but may not have been taken into account. The remarks of local officials upon the statistics they send in are not always very deeply thought out.

On the whole, so far as progress may be connected with decrease of crime, the official reports do not show much ground for congratulation. There is at the same time in them so frequent a mention of improved police, that there seems no good reason for deducing an unfavourable conclusion.

Another special crime of India is Infanticide. In certain districts of our great possession, as in certain other countries of the globe, a practice prevails of murdering female children. That the prevalence of such a crime is a blight upon the progress and welfare of any nation is obvious. The motives from which the practice results are the expense attending, by custom, the marriage of a daughter, and the idea that it is a disgrace to have an unmarried daughter of ripe age. In Kutch, such has been the prevalence of this crime, that in 1873 the number of Jadeja females to males was as 4,272 to 8,371. In

1840 the almost astounding state of things was that there were but 335 females in this state to 4,912 males. The crime is very local, it hardly exists in Oude, and in the districts where it largely prevails certain villages are conspicuous for the nefarious practice.

Attempts have been made to lessen female infanticide; and in this respect satisfactory progress may certainly be credited to our administration. In Kattywar the practice was specially common. In view of one of the causes already mentioned, the expense, namely, of a daughter's marriage, the Government, as early as 1821, established what has got to be known as the Infanticide Fund. All fines levied on Kattywar chiefs for other offences as well as for infanticide, were in part applied to providing female children with marriage portions. The success attained was partial only; and in 1834 other measures were directed to the cure of this great evil, the principal of these being a greater watchfulness over registration and census taking, and a circular advising fathers to stipulate, on giving a daughter in marriage, that the female offspring should be preserved. Besides these direct remedies, the indirect influence of a greater diffusion of education has no doubt operated, and the result is that the practice is almost or quite extinct in Kattywar, the latest reported proportions of the sexes being 9,513 females to 10,461 males.

In Kutch, also an infanticide district, similar measures were adopted; a marriage portion fund was instituted, and careful registration adopted. The chiefs objected, at first, to the census measures, but finally submitted, and the crime is steadily waning.

The North-West Provinces are to some extent infested by the same crime, and infant mortality there shows an exceptionally high rate for female children. Nevertheless, the administrative measures applied are here also telling; in the official year 1874–5 the proportion of girls to the total number of infants rose from 28·9 to 30·9 per cent. Still, as the natural proportion is nearly 50 per cent. the condition of the provinces in this respect manifestly leaves room for improvement.

Prisons are a sore point in the administration of most countries; it is only within the last few years that it has ceased to be the subject of reforming agitation at home. The sanitation of prisons, which in past times, and especially in hot climates, have so often been pest-houses, has high difficulties in

India, but has been recently a subject of careful attention. The principle of making punishment both deterrent and reformatory underlies the management of Indian prisons, as of prisons at home. Classification, rewards for good behaviour, and education of criminals (both with books and in the workshop), are features in all the divisions of our great empire under notice. According to the last reports, the mortality in the Bengal prisons was still very high, in spite of many efforts in a sanitary direction; the general death-rate was 5·59, and, high as is this figure, it is still more startling to learn that in one jail the rate was 27·02 per cent., in another 17·68, in a third 12·86. No satisfactory explanations of this state of things are afforded by the medical officers, but the Local Government is apparently alive to the importance of investigating the matter.

The system of marks for earning by good conduct and industry some remission of punishment is in regular operation in the prisons of Madras, and has been found to answer well. Of 14,534 convicts admitted into prisons in this presidency in 1874, only 1,106 were well educated. Of the whole number, 23,665, in jails during the year, 3,852 were taught some little knowledge of reading and writing.

In this presidency the average death-rate in jails was 2·68 per cent., though here also the rate was unusually high in certain prisons.

Jail accommodation in the Bombay Presidency is admittedly deficient, in that, according to the latest published official reports, there was an average of 8,068 prisoners, and jails for 6,845 only. The same is the case in the Punjab, where progress however is reported in extension of accommodation. Of 19,518 prisoners admitted in this province during a recent year, 19,000 were quite illiterate, including all the females; only 156 could be said to read and write well. But a considerable educational effort appears to be the rule here, for the same report which gives the just quoted figures tell us that during their confinement 8,931 made some progress in reading and writing. The death-rate in the Punjab jails was last returned as 3·25 per cent., an improvement of 1·62 per cent. on previous returns, but still too high. It is the result, the Lieutenant-Governor thinks, of outbreaks of zymotic diseases in particular establishments, not of a general insanitary condition; nevertheless this is not taken as an excuse for inactivity, and we are informed that arrangements are being made, as funds permit, for the segregation of newly

arrived prisoners; elaborate rules are enforced for securing cleanliness and preventing overcrowding; the scale of diet and clothing is very liberal; and "in the event of its being considered inadequate in the case of any individual or class by the medical officer of the jail, he has only to represent the matter to the Inspector-General, and on his concurrence the necessary increase is at once allowed." The reproach which prisons have been to so many dynasties and governments is not likely, it will be gathered, to fall upon us in respect of our administration in India.

There was a terribly high death rate in the jails of some of the North-West Provinces; at Goruckpore 20·14, in the Meerut Central Jail 12·83 per cent. This, however, is attributed to the unhealthiness of the districts, to counteract which drainage has been resorted to. In Oude the prison death-rate was only 1·64 per cent. A system was introduced here, in April, 1875, of selecting promising prisoners to be trained as schoolmasters for the rest, by which means it was considered that in the end every prisoner would receive an hour's instruction daily. In the Central Provinces it is confidently stated that there "are no jails which can be called unhealthy."

Many interesting features of progress are discernible in connection with *Agriculture* in India. The great drawback to advancement to anything like the English standard is the inferiority of the live stock. In Bengal, a recent report stated that the breed of sheep and cattle had "sunk to the lowest possible point," the chief reason being that animal food is not eaten by the natives. Horses were but of a poor stamp, though some success had attended the efforts of Government to improve the breeds. Similar steps have been taken in the Punjab. In British Burma, although the numbers of stock are increasing, mortality is great amongst cattle from sheer neglect.

Cotton is an agricultural crop of some importance now in India, but of much fluctuation. In this article the demand depends upon the crops in other countries in an exceptional degree; the cultivator can never reckon with any certainty upon prices, and the result is a want of steadiness in the industry.

The growth of Quinine is a modern feature of Indian cultivation. In Bengal the Sikkim chinchona plantations have been very successful. The number of trees planted out in 1874–5 was 385,000, making a total in the plantations of 2,765,000. Next year the yield was five times as large as ever before.* In

* "Moral and Material Progress of India in 1875–6" (Parliamentary Paper).

the Nilgherry Hills (Madras Presidency) about 3,000 acres were under chinchona in 1874-5, and all the bark is shipped to London. During the year 28,659 lbs. was shipped, and realized 4*s.* a pound, being an increase on former prices of more than 1*s.* a pound. An attempt to grow the tree in the Bombay Presidency has not succeeded. In Mysore and in British Burma the healing plant does well, and its cultivation is extending.

We all know, probably, that Indian Tea is fast making its way. In Bengal the crop, though not yet realizing the sanguine expectations of the first days of tea planting, is reported now amply remunerative, which implies that the quality is good. The cultivation in that presidency has enormously extended. A field "indefinitely large" for tea plantations is said to exist in a long tract at the foot of the Darjeeling Hills. The Nilgherry Hills, Madras, was an early site of experiment with tea. Here the plant did little at first; the China sorts grew slowly, and made scant leaf; the Assam variety hardly found a suitable soil. Now the two kinds have been crossed, with a good result.

Tobacco cultivation is another experiment, which is progressing, but not with such steady steps as tea. Seed has been imported from the older tobacco-growing countries, but not always with the result of producing a non-deteriorated article. Nor do the natives quite understand the best method of sowing. But the cultivation, like that of tea, may improve; it promises best in British Burma, where seed from Manilla has been introduced with success, and the export is yearly increasing.

Reading as we do so often of waste which is going on in cutting down forests, it is gratifying to know that in India measures have been taken betimes to reserve forest lands. Bengal is especially famous for sâl timber; and in past days there has been much unnecessary destruction of these trees; the Government are now alive to the necessity of forest economy, and during 1874–5 additions were made to the reserved forest area of 1,347 square miles, consisting largely of sâl. Government protection has also been given to the soondri tree of the Soonderbuns, a wood which has such a great value for boat-building that it was fast getting exhausted. In the reserved forest area the Government of this presidency have now prohibited the felling of soondri trees under a certain girth, and a small tax is levied for leave to cut the better grown trees.

In the Bombay Presidency the same good work of setting

aside forest reserves has lately been carried out. Planting of teak, mango, and other trees has been receiving attention here; some 300,000 seedlings were planted out in the reserves in 1874–5. The subject is under intelligent attention in Assam. In the Central Provinces the Forest Department is gradually increasing the area of timber land under its protection. Teak cultivation in British Burma has been brought under vigilant official supervision; from the Government forests of this province there was turned out in 1874–5 teak to the amount of 37,990 tons. But of the state of Agriculture generally in India, it is, unfortunately, of little use to write at this present time. The country is in the shade of a calamitous famine, and any statistics of a cheerful kind which might be easily gathered from reports of earlier years are, alas! of little significance, except as showing the possibilities of this great country, when relieved —as we must hope it may eventually be—from periodical strokes of dire distress. Happily it has come at least to be recognized that a famine is not necessarily an inevitable calamity, or a mysterious judgment of Heaven under which the becoming attitude is listless resignation. Amongst other motives for the care taken of forests, just described, is the fact that forests encourage rain, and rain discourages famine.

Large *Public Works*, under Government superintendence, are a feature of a stage in a country's history which we in England have long passed. But the state of society in our Indian Empire is not yet such that we can leave even works of general utility to private associated enterprise. Unless promoted by Government, Public Works in India would be at a standstill, and some of the most vital improvements left undone. One of the chief of these is Irrigation Works, the importance of which as preventive of famine will at once be seen, Indian famines being the effect of drought. Something has been done during recent years to extend irrigation appliances, though not enough. In 1874–5 there was, in the Bengal Presidency, some progress with the Soane and Orissa canals. The Lieutenant-Governor submitted a scheme for the completion of the Orissa system, by which the Cuttack district would be "fairly protected from drought;" and Sir R. Temple had recommended a scheme whereby the five principal streams of the Sarun district, running from the Gunduk to the Ganges, might be made available for irrigation. The embankment of the Gunduk in Chumparun, and the admission of a supply of fresh water from the river Damorda into the

bed of the Kana Nuddee were other works having similar objects in this presidency. By the last-named great benefit is reported to the district.

The Kusmore and Begari embankment, in Sind, was the only work of the kind in progress in the Presidency of Bombay.

In the Punjab there was much more activity with canal work, and it is officially recorded that a remarkable development of irrigation was effected in the Ferozepore district by the energy of Captain Grey, Deputy Commissioner, by means of "inundation canals" from the Sutlej. Ten canals were constructed, with an aggregate length of 213 miles, and providing means of watering an area of 100,000 acres.

Steady progress, under this all-important head of irrigation, took place in the North-West Provinces during the year 1874–5. The Agra Canal was brought into actual use for irrigation, and the massive foundations of the weir and headworks of the Lower Ganges Canal were nearly finished. We may hope, and expect, to see a far greater development of Public Works of this class, providing as they do, to some extent, against such awful calamities as the famine which has been raging in the last year. In the opinion of many who have studied India, a complete system of irrigation will be the salvation of the country.

Railways are not in a very robust state in India, but their construction goes on extending slowly, as does also that of ordinary roads.

In developing the *Mineral Resources* of India, much scope, it is known, exists; further exploration by scientific eyes will, for almost a certainty, result in the discovery of more. But mineral treasures are dependent, for their realization, upon roads and canals, and must necessarily wait the slow growth of these means of communication. Coal is found in many parts of our Indian Empire. In the Bengal Presidency the coal mines of Burdwan already do a good business. The prospect of utilizing on any large scale the coalfields of Orissa depends on its being found at points accessible by a water route. There are, in the Central Provinces, excellent coal mines at Wurrora, having a calculated reserve of 40 million tons, or sufficient to give an output of 500 tons a day for 260 years. Besides this, in the same provinces, the Mhowpani mine supplied, in the year 1875, about 20,000 tons of coal. In Berar the existence of coal in the Pisgaon fields has been verified, and the extent and productive capacity found to be very considerable; the quality is similar to

that of the Wurrora fields. Coal exists in British Burma, but has not yet been much worked.

Iron is another of the Mineral Resources of India which is known to exist largely, is being drawn upon to some extent, and is an object of future hope. In the Bengal Presidency an important company has been recently established, the Bengal Iron Company, for developing the iron in the Raneegunge district, which has the advantage of being traversed by the East Indian Railway. Iron of good quality is found in the Orissa hills; in Ungool and Talchere iron and coal are found together. In the North-West Provinces is the extensive Kumaon iron district, of a value not unquestioned, so far as regards immediate operations, but dependent only upon the almost certain future development of roads and means of conveyance. Iron manufacture is quite an important industry in the Jubbulpore district of the Central Provinces.

Gold is not conspicuous, so far as present observation goes, in India. A little is known to exist, and is being worked, in the Kolar district of Mysore; and more in the Wynaad district, Madras Presidency. In the Mergui and Tavoy districts of British Burma there is tin. Lastly, the whole of Chota Nagpore is reported "full of mineral wealth," which "only requires to be thoroughly opened up by roads and other communications." In the Hazareebagh district there is a talc mine, producing talc to the value of 2,500*l.* a year.

Turning from the natural wealth of the country, to another and a different source of prosperity, *Popular Industries*, it is to be mentioned that the manufacture of cotton is growing. This is, indeed, officially reported to be "the only manufacturing industry on a large scale in the Bombay Presidency which is remunerative." There were, in 1874-5, no less than 28 companies engaged is this manufacture in Bombay itself; and 12 in the interior. The production of cotton cloth is an industry all over the Central Provinces; hand-looms may be found at work in any considerable village. But the competition of cotton produced by less rude machinery is being felt, and unless the processes are improved to keep pace with English made cottons, it is believed the industry is doomed.

Of silk production and manufacture, no very brilliant account can be rendered. In Bengal, silk-weaving is in a dying state; the work is indifferent, and the quality of the pieces unequal; consequently European competition is killing it. The cultiva-

tion of silk, as well as its manufacture, prospers more in the Central Provinces. The worm thrives on the leaves of trees which grow in nearly every district of these provinces, and intelligent attention is being given to improvement in feeding and managing silkworms.

Weaving, chiefly of English yarns, is carried on throughout British Burma, silk and cotton goods being manufactured largely for home use. Goldsmith's and silversmith's work, and ivory carving, are stated to be improving in quality and finish, and to be the object of increasing demand, chiefly by the European inhabitants as specimens. On the whole, however, manufacturing industries are not, in our Indian Empire, so vigorous as might perhaps be wished.

In the matter of *Public Health* in India we have to work, as compared with England, almost in the dark. There is not that complete system of registration of births and deaths which has been brought to such exactness at home, and by which the sanitary condition of the people is seen at a glance, and almost as in a map, week by week, through returns framed and published, with comments, by the Registrar-General. Only for the military section of the community in India has the Government exact statistics of mortality; these reveal a fairly satisfactory condition of health. The death-rate for the whole army of India in 1874 was 13·58 per 1,000 of strength. A statement may be noted in the official sanitary reports of the Bombay army, that the dry earth closet system is very generally employed and found to answer.

The death-rate amongst the European soldiers in 1875 was much higher than in 1874, namely, 17·48 per 1,000. Cholera alone carried off 3·32 per 1,000; the number of British soldiers attacked by cholera was 288, of whom 194 died. It has been revealed by the health statistics that the first year of residence in India is the most fatal; but if a man survives the first year, he is less likely to die in the second than in the third year of residence, in the third than in the fourth, and so on; the mortality increasing with each year of residence. In other words it is a killing climate for Europeans. But a palliative has been found by quartering the troops in the hills, and every year shows that English people benefit vastly by the more bracing air of the higher regions.

Amongst the native regiments the mortality in 1875 (the latest of which reports have been issued), was 13·4 per 1,000, or

less than that which prevailed amongst the British soldiery by 4·08 per 1,000. This difference may be said to represent, roughly, the unsuitability of the climate to the European. Cholera had 163 victims out of 340 attacks; official experience in India, as at home, proves the great value of ordinary sanitary measures in warding off the epidemic. In the Bengal Presidency it is reported that there was an unhealthy condition among the sepoys from insufficiency of food; this arising, however, from the men pinching themselves, either from parsimony, or from religious motives. The death-rate is always lower amongst the Mahommedans than the Hindoos; and this is attributed to the better diet of the former.

As regards the general population, we have, as has been already intimated, no real knowledge of the statistics of mortality. In Bengal, a few years back, Sir G. Campbell, considering it hopeless to obtain accurate vital statistics over the enormous area of the province, with its vast population and uneducated agencies, adopted a plan of taking special measures to ascertain such statistics in certain selected specimen areas; no statistician, however, would assign anything but a limited value to the results.

Cholera, small-pox, and fevers, are the great enemies of life in India. Bad water is a main cause of the first-named disease, and there is obvious room for sanitary improvement on this head, as indeed we are suddenly discovering is the case at home. Against small-pox the protective of vaccination is being more and more adopted; but it is by no means universal, nor unopposed.

In the Madras Presidency it has been reported from several districts that nothing short of compulsion will induce the people generally to submit to the operation. In the Bombay Presidency, however, the official reports state that no real opposition is made to vaccination, though there is much apathy and carelessness. In the Punjab a prejudice against it has been nourished by the native schoolmasters, but is being overcome. In none of the districts of the empire, it is to be feared, do the arrangements for vaccination approach a desirable completeness.

The latest accounts, those contained in official reports for the year 1875, devote some space to the discussion of the cholera visitation of that year, with results very similar to those now considered by medical men as established facts at home. The theory of cholera being contagious is quite exploded; in no case could an outbreak be traced to importation, in no instance to

attendance upon the sick; and nowhere was any benefit found from quarantine. Drinking water is apparently the sole conveying medium; and the cause of the spread of the disease is clearly proved to be connected with bad water, bad drainage, and filthy habits. In Oude the inmates of the jails are entirely free from cholera, while it is never absent from the population generally.

The fearful mortality from small-pox in India comes out as a black feature in the reports for 1875. In London, the most fatal time of small-pox recorded in recent years gave a mortality of 4 per 1,000 per annum; in Bombay the deaths in 1875 were, for a time, at the rate of 24 per 1,000 per annum. Small-pox is an historical disease in India; it has its goddess, Sitla, to whom there is a temple in the district of Gurgaon; and inoculation is, just as certain sanitary measures were amongst the ancient Jews, a religious ceremony. Being such it is found almost impossible to substitute for it the far superior practice of vaccination, though the popular confidence in the last-named operation is growing.

It is easier, even in England, to enlist people in favour of the cure than the prevention of disease; many will subscribe to a hospital with a better grace than pay a sewers rate. So in India there is no lack of hospitals and dispensaries, however backward the preventive side of sanitary science. In Bengal, the charitable hospitals and dispensaries, at the close of 1874, numbered 203; 23 were newly established that year, a fact which, the Lieutenant-Governor considers, speaks well for the public spirit and benevolence of the native community, by whom the necessary funds for the new establishments were provided. In Madras, again, the readiness with which the people tax themselves for the support of hospitals is noticed with approval in recent official documents. There is a tendency among various populations to relapse into the absurd native systems of medicine, but in surgical cases, where results are more visible, they resort to European practitioners with more confidence. There are growing medical schools in all the great divisions of the Empire, where native students are taught medicine, of course on English principles. In the recent reports from Madras, it is curious to read that, as a large proportion of the Indian female population are debarred by social custom from receiving male medical treatment, measures were taken in 1874 for the education of female students at the Medical College. Three female students only availed themselves

of the facilities. The sanitary report for 1875 tells us that the school experimentally opened at Bareilly for training female native doctors has had to be closed, not from any want of capacity in the young women, but from causes which, to some extent, have been felt as objections at home. If the lady doctors are not married they are looked down upon; if they are married their husbands prefer their devoting themselves to home, rather than professional duties.

The official reports for 1874–5 showed considerable advancement in the sanitation of municipal towns in Bengal, as an indirect result of the famine of that period. What to do, and how to do it, had been shown in a most practical manner by "relief works" undertaken, primarily, as employment to the sufferers from want. A new water supply from the Red Hill Lake brought Madras comparative immunity from cholera in 1875; and something has been doing in the same direction for Bombay. Delhi suffers greatly from bad water, and improvement is in hand. In Oude long-standing sanitary neglect has produced an almost intolerable effect; certain careless practices have caused a deposit of salt and nitre in the soil of every old town, frequently in sufficient quantity to be extracted as articles of commerce!

It would be but a poor account of their stewardship for rulers to render in which did not appear some evidence of attention to the national *Education*. We have, as a matter of fact, taken into our hands the educational machinery in India, and control it by a staff of directors and inspectors. Its head-quarters are the three universities, one in each presidency: the schools themselves are of two grades, middle and primary.

The progress recently reported is not very great. In Bengal the youths of the higher classes have long made a run upon two professions, the civil service and the law; the result is that these are overstocked, and that other careers are neglected. By way of diverting effort into other channels the Government of this presidency, in 1874–5, made a movement for the foundation of superior technical schools, but with no great result. There was in this year, however, an increase, in the Bengal Presidency, of about 1,000 aided primary schools. Sir R. Temple reported a healthy ambition amongst the natives of Bengal to raise themselves by education, an increasing pride in the intellectual achievements of the Hindoo mind, and a growing desire to learn English. One satisfactory result of the visit of the Prince of

Wales was a number of subscriptions amongst the wealthier classes to found educational institutions in its commemoration.

In the Madras Presidency there was nearly as large an increase in the aided schools during 1874–5, but here the Government has had to intimate that a larger share of municipal funds might with advantage be devoted to education.

In Bombay the corresponding increase was one of 181 schools only.

Education made progress in the Punjab, which is nevertheless very backward, the proportion, in 1874–5, of children receiving no instruction, being 70 per cent. There is, however, in this province much promise of improvement. It is recorded, for instance, that in the frontier district of Hazara in 1872, there were but three ill-attended schools, and although the authorities reported "no desire for education," there had grown to be, in 1874–5, 25 schools, amongst the 1,098 attendants at which were the sons of several local chiefs. This remarkable advance is ascribed partly to "the fact that the settlement operations now closed, while they have largely increased the value of property in land, have awakened the people to a sense of the practical value of instruction," and partly to the extension of the municipal system in the district, both points to which reference has already been made. In the North-West Provinces schools were increasing; in Oude also; in Ajmere an experiment in night schools for the agricultural population proved a success. In the Central Provinces there was, in 1874–5, a decrease of 30 schools, but an increased average daily attendance. British Burma is said to be ready and ambitious in the matter of education; in some parts of it there is a difficulty in regard to Government inspection, many of the monastic schools firmly resenting interference.

The education of females meets with special difficulties, as is well known, in the greater part of India. In British Burma, where women have more social freedom, it is described as progressing satisfactorily. A report relating to the Bengal Presidency says zenana education is believed to be making decided progress among the higher classes; but it is conducted quite privately, and it is doubtful whether it goes beyond reading and writing.

From the foregoing facts, observations, and figures it will be seen how great a field for the best functions of government there is in our Indian Empire. It will also be seen, happily, that its administrators have their minds bent upon promoting

progress and improvement, in many and important directions. A sketch, even as slight as that which is here possible, conveys a strong impression of the vast task which the possession of India imposes upon us, especially when we realize how little of the faculty of great initiatives appears to exist amongst its peoples. Unless, however, official documents are incredibly misleading, there can be no doubt that the one end and aim of our administration is the good of the people; and that our administrators are working for real advantages and earnestly promoting real improvements. It will be, may we not say without presumption and with pardonable pride, a sad time for this great Eastern possession should it ever pass from under the sceptre of the Queen of England and Empress of India.

JOHN CROWDY.

THE WORKING OF THE SCHOOL BOARD SYSTEM.

IT is often said, and with some degree of justice, that there is nothing which is more dear to the average Englishman than the right to grumble at his local and his national institutions. He pays for their support either willingly or unwillingly by means of the tax or the rate, but in any case he feels that it is his privilege to criticise, if not to find fault with them, and this he often does when he expends neither time nor trouble to effect their improvement. The incidence of the income-tax is a case in point as regards imperial taxation, while in the way of local government scarcely any expenditure, whether of guardians, vestries, or of those mysterious boards which go to make up the complex system, passes unnoticed. To these subjects of discussion a fresh element was imparted in 1870, when, by the passing of the Elementary Education Act (33 and 34 Vict., cap. 75) the School Board was added to the previously existing organizations, and was called into life by the ratepayers' will, and with the distinct understanding that its outlay was to be met out of the ratepayers' pockets. It was, it is true, so far a creation of the Imperial Legislature that its certificate of birth received the Sovereign's sign manual, while the Lords and Commons were its sponsors; but it owed its primal vitality to the people, and, unlike all other local institutions, it is, except in the few cases where it is imposed by the Committee of Council, always within the power of the people to avoid its imposition or

operation by the adoption of other means to fulfil the requirements which it was designed to meet. The School Board may thus be said to differ altogether from the other entities in the multifarious local government system in that it is essentially a popular institution, not always so indeed in the ordinary sense of the word, in fact frequently the reverse, but popular as depending on the vote of the majority, and on their decision whether the machinery which it provides is or is not better adapted than the voluntary system for the attainment of the end in view—the provision of public elementary education in England and Wales. Originally, it is true, the Board, when once established, could not be abolished, but by a recent, and, as most persons will consider, a wise alteration in the law, it is now possible to dissolve a School Board when its operation is no longer required. Thus, on all points, the description we have applied to it is justified ; it is of the people, and for the people, in the truest sense of the words.

Before proceeding to note the working of the School Board system which is to form the subject of this paper, it may be well briefly to recall the circumstances under which it first saw the light. Looking back to the period of the passing of the Act of 1870, on which Mr. Forster's reputation as a statesman, and especially as a Minister of Education rests, we find that shortly after it had become law, the Education Department calculated that out of the then population of about 23,000,000 in England and Wales, the average daily attendance at efficient elementary schools ought to amount to about three millions. The accommodation for this number of scholars ought, of course, to have been considerably in excess of the average daily attendance ; but, as a matter of fact, the schools then in receipt of annual aid from Parliamentary grants held little more than two and a quarter millions. This estimate excluded from consideration the other elementary schools not open to Government inspection ; but, even allowing for these, the work to be done was so considerable that the country resolved no longer to trust to the gradual operation of the voluntary system, and supported Mr. Forster in his scheme for the application of a fresh lever to the great educating machine by giving the Education Department the power to enforce the formation of Boards in all districts where the school accommodation was insufficient for the population. An endeavour to import the *odium theologicum* into the question was made in various quarters, but met with compara-

tively little success, the Conscience Clause having so effectually provided for the satisfaction of all conscientious scruples on the part of parents against the religious teaching in any particular school that the country, or at least all thoughtful men, realised that there was no well founded grievance on this head in the existing schools, and Mr. Forster's object was not to satisfy a minority of persons, but to do a great national work in a more efficient manner than it had been hitherto done, or could be done by existing means, or as the Queen's speech of February 8th, 1870, put it, "to enlarge on a comprehensive scale the means of national education." It is important that this fact, as a matter of history, should be clearly brought out, because it is no uncommon thing to find writers, who ought to be better informed, arguing as if the very reverse were the case, and as if the main object of Mr. Gladstone's Government in bringing forward the Bill had been to deal a death-blow to the voluntary system. As a proof to the contrary, it may be well to quote Mr. Forster's words on introducing the measure when, after showing that even with national aid the volunteers, as he termed them, had not been able to do all the work that had to be done, he said: "We must take care not to destroy in building up, not to destroy existing institutions in introducing new ones. There must be, consistently with the attainment of our object, the least possible expenditure of public money, the utmost endeavour not to injure existing and efficient schools. Our object is to complete the present voluntary system, to fill up gaps, sparing the public money where it can be done without, extending the sy stem where the extension is necessary, procuring as much as we can the assistance of the parents, welcoming as widely as possible the aid of those benevolent men who desire to assist their neighbours." But, further than this, the member for Bradford was careful to proclaim the intention of the Government even then to accord another day of grace as a proof that its only desire was to do the work which the friends of the voluntary system found themselves unable to accomplish. "We think," added Mr. Forster, "that we ought to give enough of time to test the zeal and willingness of any volunteers who may be disposed to help, but we ought not to give longer, because we cannot afford to wait. If that zeal, that willingness does not come forward to supply the schools that are required, then the children must no longer remain untaught, and the State must step in." These words, unless they are strangely misread or perverted,

clearly proclaimed the object of the measure, and of the School Boards which it created, to be to supplement, and not to supplant, existing schools, and although in some places the Boards on their own responsibility may have taken a course which has practically resolved itself into an effort to compete with and ultimately to oust the voluntary schools, it must be admitted that they have no sanction for such procedure from the men who were responsible for framing the Act of 1870, and in virtue of whose promises and pledges it was ultimately passed and accepted as the basis for future work.

Before leaving the question of the primary aim of the Act as defined by its framers, the words of Mr. Forster on what has been termed "the religious difficulty" should be quoted. Having pronounced in favour of a stringent conscience clause, whether in voluntary or board schools, Mr. Forster strongly protested against any action which would be equivalent to a State ban upon the teaching of religion to the children:—"It may be said 'Why do you not prescribe that there shall be no religious teaching at all?' Why do we not prescribe that there shall be no religious teaching? Why, if we did so, out of this religious difficulty we should come to an irreligious difficulty. I have no doubt whatever that the majority of parents would wish that there should be religious training and the Bible in the schools. If we prohibited religious teaching, should we not be saying that the only book not to be used in our schools is the book which is the foundation of the religion we profess? But then it may be said that we ought to have no dogmatic teaching. But how are we to prevent it? Are we to step in and say that the Bible may be read but not explained? Are we to pick out Bible lessons with the greatest care in order that nothing of a doctrinal character may be taught to the children? I don't say that we could not do this. Rather than fail in the opinion of the country I should be prepared to encounter such a task; but I say that it is one of detailed supervision which does not belong to the central government, and in which the probability is that the central government would fail. Again, it would not be for us to say that here the Bible should be taught, and that there there should be no dogmatic teaching, because there may be parents in some districts who, without any dislike to religion at all, may prefer a purely secular school to the religious teaching given elsewhere, and those parents ought to be allowed to do as they please." In other words, while expressing, on behalf of himself

and his colleagues, a very strong objection to the exclusion of religious teaching, and hinting at the probability that if it was given at all it must be more or less dogmatic, Mr. Forster shifted the responsibility of deciding on this important point from the central to the local government, who must be content therefore to accept the praise or blame for their own acts, and who cannot with any show of justice pass on to the ex-Vice-president the responsibility of adopting a purely secular education, or religious teaching so hampered by restrictions as to be practically worthless. Mr. Forster showed clearly enough, and the House, as the chronicle proves, cheered his sentiments again and again, that not only had he no desire to interfere with the voluntary schools or with religious teaching, but that he wished the one to be maintained and improved, and the other to be given in the best possible way, provided always that parents who objected to it should be able to withdraw their children from it. Such, then, is a clear statement of the aims with which the Act was passed, and under which the School Board became part and parcel of the educational machinery of the nation.

The second point which claims our notice is the progress of the system thus inaugurated. The initial step to enable the Committee of Council to judge in what districts the compulsory establishment of School Boards would be necessary, was taken under the sixty-seventh section of the Act, which required the local authorities of the municipal boroughs throughout England and Wales, and of every parish not included in a borough or in the Metropolitan district, to make returns of the elementary schools and children requiring elementary education in their respective districts. There were at the time when the instructions to this effect were issued 14,881 parishes in England and Wales separately maintaining their own poor, viz. :—

		Population in 1861.
In the Metropolitan district	192 ...	2,809,004
In municipal boroughs...	826 } ...	5,511,653
In the City of Oxford	19 }	
Civil parishes (rural, or in unincorporated towns)	13,844 ...	11,745,567
	14,881 ...	20,066,224

The returns for the whole of the population in these parishes, amounting, according to the Census of 1861, to 20,066,224, were, with a few important exceptions, completed early in 1871, and the Education Department then had the foundation for working out the Act. The department, within a short period of the passing of the Act, received so many applications for the formation of

School Boards under its twelfth section (which provided for the immediate election of School Boards on the application of the Town Councils of municipal boroughs or the ratepayers in extra-municipal parishes), that it became necessary without delay to frame regulations for the election of School Boards, and these were immediately issued. The following table will show the rate at which the Boards have been formed, exclusive of the London Board, the establishment of which was prescribed by the Act :—

Date.	Orders issued for formation of Boards in	
	Municipal Boroughs.	Civil Parishes.
7 July, 1871	96	188
5 July, 1872	100	279
30 June, 1873	103	445
10 June, 1874	104	594
16 June, 1875	113	1,100
1 June, 1876	119	1,534
9 June, 1877	123	1,667

Out of the 123 boroughs in which Boards have now been established, the election was only compulsory in 18 cases to supply a deficiency of school accommodation, which could only be met by rates. In the remaining 105 cases, the election was ordered by the Education Department on the voluntary application of the municipal authorities. Each of the 13 towns in England with a population exceeding 100,000 now has a Board, and of the 21 towns with populations ranging from 50,000 to 100,000, Preston stands alone in being without a Board. Of the next 69 towns with populations of from 20,000 to 50,000, there are 45 with Boards, and 25 without. The Boardless towns are :—Accrington, Bilston, Birkenhead, Bury, Cambridge, Chatham, Cheltenham, Chester, Colchester, Dover, Gorton, Heywood, Leamington, Lincoln, Lower Sedgeley, Over Darwen, St. Helen's, Shrewsbury, Torquay, Tottenham, Warrington, West Derby, West Hartlepool, and York. The population now under School Boards is as follows:—

	Population.
ENGLAND.	
London	3,266,987
108 Boards in 108 (out of 202) boroughs... ...	5,358,374
1,424 Boards in 1,965 parishes	3,451,175
	12,076,536
WALES.	
15 Boards in 15 (out of 21) boroughs	185,582
243 Boards in 381 parishes	567,713
	753,295
Total, England and Wales	12,829,831

From this it will be seen that the School Board system has already been adopted very largely, and the Committee of Council in their last report, bearing date June, 1877, state that the Department is still engaged in issuing notices for the formation of Boards, either on the voluntary application of the districts requiring their machinery, or *mero motu* in consequence of the ascertained want of school accommodation. When, however, the School Board is formed at any particular centre, its members have the responsibility of making bye-laws for enforcing the attendance of the children at school, and the large extent to which they have availed themselves of their powers in this respect is shown by the fact that on the 1st of April, 1877, the Queen had sanctioned bye-laws in London, in 109 municipal boroughs (out of 123 in which School Boards have been elected), and in 612 civil parishes, out of 2,346 parishes in which Boards have been elected. These parishes are comprised in 1,667 Boards, of which 612 have passed bye-laws. Perhaps, however, the most striking illustration of the degree to which the much discussed and much abused principle of compulsion has thus been applied, is given when it is stated that it is now the law for half the whole population of England and Wales, including about 84 per cent. of the borough population. To meet the difficulty felt in numerous cases in framing the bye-laws for this object, which naturally forms such an important element in the operations of the Boards under the Act of 1870, the Education Department has at last framed and published, in the Appendix to its Report, some model bye-laws including all that it believes to be essential, and thus meeting a difficulty which has been seriously felt, especially in country parishes. The opinions as to the working of the compulsory system are very various, and at some of the conferences held under the auspices of the National Society statements have been made that, as applied under the London Board, it has proved a comparative failure. On the other hand, the admission is becoming very general, even among its most earnest opponents, that it is in some form or other, direct or indirect, a necessary complement of the School Board system.

Scarcely less important than the extent to which School Boards have been adopted is their cost, not only as regards the annual outlay for the maintenance of their schools, but also as to the loans effected by the Boards, which in some cases have reached an enormous amount. The annual receipts of the Boards which have returned accounts to the Education Department have increased in the ollowing rate:—

ENGLAND.

Year ending 30 Sept.	Number of Boards.	Income, excluding Loans for Permanent Works.	Source of Income per cent.			
			Government Grants.	Rates.	Fees and Sale of Books.	Various.
		£				
1872	245	26,231	1·6	89·3	6·2	2·9
1873	343	303,313	8·3	78·3	11·8	1·6
1874	514	492,890	12·5	71·6	14·3	1·6
1875	889	813,154	15·4	68·6	14·3	1·7
1876	1,267	1,178,946	16·	69·1	13·7	1·2
		WALES.				
1872	80	8,336	13·9	70·6	13·1	2·4
1873	94	25,963	23·5	55·2	17·8	3·5
1874	123	36,828	25·2	56·1	17·1	1·5
1875	163	52,628	22·6	59·1	17·1	1·2
1876	219	90,654	24·4	59·	15·5	1·1

Actual income, however, forms but a small proportion of the sums received by the School Boards throughout the country, as they have, in accordance with the terms of the Act of 1870, obtained loans of very large extent mainly for the purpose of what may be termed permanent work, such as the erection of school buildings, offices, &c. The following table shows the amount of the loans raised:—

Year ending 30th Sept.	England.			Wales.	Total.
	*London.	Boroughs and Parishes.	Total.	Boroughs and Parishes.	
	£	£	£	£	£
1872	33,675	31,013	64,688	773	65,461
1873	465,332	442,950	908,282	21,521	929,803
1874	574,693	809,682	1,384,375	105,663	1,490,038
1875	597,045	772,070	1,369,115	97,361	1,466,476
1876	499,735	1,016,963	1,516,698	89,073	1,605,771
£	2,170,480	3,072,678	5,243,158	314,391	5,557,549

These loans, raised upon the security of the rates, have, for the most part, been applied to works of a permanent character. The repayment of such loans is effected by equal annual payments, inclusive of interest, spread over a term of years not exceeding fifty, or by the formation of a sinking fund, as prescribed by

* The London Board, in addition to the above, has raised 90,000*l.* from the Metropolitan Board of Works.

the 58th section of the Act of 1870, and by the 10th section of the Act of 1873. The amount thus borrowed has, as the above statement shows, assumed proportions calculated to astonish, as indeed in some cases it has astonished, even the most careless ratepayers, but then it must be borne in mind that when the Education Department reports that on the 1st of April, 1877, it had recommended the Public Works Loan Commissioners to make 2,239 loans, amounting to 7,686,766*l.*, to 1,107 School Boards, it is also able to report that the fruit of this large expenditure of public money has been the provision of additional accommodation for 621,831 scholars, and thus there is something tangible to show for the outlay. Under the terms of Section 36 of 38 and 39 Vic., c. 89, it has been made the duty of the Local Government Board to satisfy themselves that any loan advanced by the Commissioners upon the security of the rates is applied to the purposes for which it was advanced, and thus the ratepayers have a certain guarantee that they will not be saddled with a heavy debt for any other object than the erection of school buildings and offices. We have stated above the amount of the loans which the Education Department had recommended the Commissioners to make. The following table shows the sums which they had actually paid on and up to the 20th of September, 1876 :—

	£
The School Board for London	2,080,480
School Boards in English boroughs	1,690,996
,, ,, parishes	1,380,798
Total for England	£5,152,274
School Boards in Welsh boroughs	40,492
,, ,, parishes	273,540
Total for Wales	£314,032
Gross Total for England and Wales	£5,466,306

The process of repaying these loans, spread over periods rising to half a century, is naturally somewhat slow, but it has the advantage that it raises very slight opposition from the ratepaying body, who are, as a rule, kept altogether in the dark as to the proportion which the quota of the rate devoted to current expenditure bears to the amount required for loan repayments. The slowness of the process of repayment is well illustrated by the following figures, showing the liabilities of School Boards at Michaelmas, 1874, '75, '76, in respect of outstanding loans, deducting, of course, the instalments of principal repaid, with the interest, up to each date :—

	England.	Wales.
	£	£
29 Sept. 1874	2,341,135	123,521
,, 1875	3,683,122	217,523
,, 1876	5,161,503	302,098

Turning from the amounts borrowed by the Boards to the source from which the means of repaying principal and interest, in common with the funds for meeting two-thirds of the current expenses, are derived, we find that it is produced by a rate calculated on the same basis of an assessment of rental which is used for poor law purposes. The Boards in every case have to make an estimate of their probable expenditure for each half-year, and of the rate in the pound which they believe will be required to meet it, and having sent a precept for the amount to the vestry it falls to the lot of that body to collect the impost together with the other parochial rates. One object of this proceeding has, of course, been gained by the saving of the additional and costly machinery which would have been employed if the School Boards had been left to collect their own rates, but it has the disadvantage that the ratepayers in boroughs are seldom able to form an opinion from personal investigation as to the actual necessity for the rate imposed, and if they inquire of the vestry whose demand, when approved by a Justice of the Peace, is as obligatory as the demand for poor rate, they are, naturally, informed that the vestry's function is only to act as the middleman, and to collect the money for the Board's officials. The net result is that the sense of responsibility resulting from the knowledge that an account of stewardship may at any moment be called for by persons whose local knowledge is often superior to that of the authorised expender of the public money, which forms a certain check, though unfortunately often an insufficient one, upon parochial waste, is wanting in the School Board, whose members are, it may be said, without any reflection upon their personal character, practically irresponsible either to any local or national authority. They are, of course, bound to render balance-sheets, and the returns of their expenditure are carefully tabulated for the public information ; but in this, as in a large number of cases, the ratepayer grumbles and pays, and pays and grumbles, without making any effort to see what he is paying for. In some instances, where the expenditure has been very heavy, and the loans have been very large, as for instance in London, where the sum borrowed has risen to upwards of two millions sterling, protests have been made by

vestries and by individuals, but as a rule there is the slightest possible check, and it is to be feared a very slender interest in the subject. The amount of the rates naturally varies very considerably, and is affected by considerations which prove that a high rate by no means implies wasteful expenditure, although the gradual and undue increase of a rate, unless it can be shown to be accompanied by a growth of work done, undoubtedly suggests this inference. The following table shows the rates collected by the rating authorities for the School Boards in the year ending the 29th day of September, 1876, in all boroughs and parishes in England and Wales, varying from below one penny to one shilling and upwards :—

Equivalent to a Rate per £ on the Rateable Value of the District.	England. Number of Boards.		Wales. Number of Boards.	
	In Boroughs.	In Parishes.	In Boroughs.	In Parishes.
Of 1*s.* and above ...	3	46	...	18
Of 9*d.* and below 1*s.* ...	3	75	1	18
Of 6*d.* and below 9*d.* ...	15	199	3	45
Of 3*d.* and below 6*d.* ...	35	388	7	71
Of 1*d.* and below 3*d.* ...	33	318	4	41
Below 1*d.*	13	59	...	4
Total	102	1,085	15	197

As an evidence of the growth of the rate in the large towns the amount of the rate in the pound in 1873 and 1876 respectively may be referred to :—

	Rate per £ in the Year 1873.	Rate per £ in the Year 1876.		Rate per £ in the Year 1873.	Rate per £ in the Year 1876.
	d.	*d.*		*d.*	*d.*
London	·77	3·74	Wales.		
England.			Swansea	1·	8·
			Merthyr Tydfil ...	3·6	6·54
Liverpool	1·48	2·39	Cardiff	No School Board.	2·08
Manchester ...	1·37	2·12			
Birmingham ...	2·	1·75	Aberdare	1·65	3·08
Leeds	4·	4·	Llanelly (Carmarthen)	2·25	3·75
Sheffield	1·	4·5	Pembroke	2·	3·
Bristol	1·47	2·17	Bangor	3·68	3·37
Bradford	3·	4·34	Carmarthen ...	4·5	7·
Kingston-on-Hull ..	1·75	2·9	Carnarvon... ...	Nil	3·
Newcastle-on-Tyne	·6	1·83	Wrexham	·8	1·5
Salford	·44	1·54			

Turning to the other side of the account, it will be instructive to glance at the expenditure of the School Boards, and here it is necessary to distinguish at the outset between what the Education Department terms the capital and the current expenditure, the former including the purchase of sites and the building, enlarging and furnishing of schools, and the latter the cost of administration of Boards, the maintenance of the schools provided by the Boards, and the expenses of the Boards having no schools under their control. The following is the gross expenditure of the Boards :—

	1871-2.	1872-3.	1873-4.	1874-5.	1875-6.
	£	£	£	£	£
England	267,020	1,126,956	1,825,957	2,124,702	2,748,356
Wales	12,652	48,029	132,108	151,743	172,176
Total... ...	279,672	1,174,985	1,958,065	2,276,445	2,920,532

This shows that the expenditure has risen to a total of nearly three millions a year in the course of five years, and as the repayment of loans, which forms a considerable item in the annual expenditure, is spread over a long period of years, while year by year increased loans are likely to be required as the accommodation has to be increased, the prospect is somewhat startling. The proportion which the various branches of expenditure bear to the total expenditure will be seen from the following table, calculated upon the basis of the accounts furnished to the Education Department by the various Boards in England and Wales :—

Year ending 29 Sept.	1872.	1873.	1874.	1875.	1876.	Total.
	£	£	£	£	£	£
Salaries of Board Officers	28,943	52,271	68,374	91,600	114,880	356,068
School Teachers' Salaries	34,440	121,119	231,956	401,866	578,398	1,367,779
Books, Stationery, Printing, &c.	27,321	34,311	55,775	101,495	115,411	334,313
Furniture	12,336	27,825	72,463	91,933	97,005	301.562
Purchase of Land ...	97,577	323,876	265,703	351,928	425,142	1,464,226
School Buildings	24,283	533,407	1,075,086	949,838	1,208,905	2,791,519
Loans Repaid with Interest	1,419	7,202	55,266	116,459	179,184	359,530
Fees paid for Children ...	4,777	5,850	6,623	5,956	6,685	29,891
Legal and Election Expenses	10,563	13,681	41,000	32,087	38,481	135,812
Miscellaneous	38,013	55,443	85,819	133,284	156,442	469,001
Total ... ... £	279,672	1,174,985	1,958,065	2,276,446	2,920,533	8,609,701

From this it will be seen that the total expenditure for the five

years has reached a sum of 8,609,701*l.* of which 3,791,519*l.* or nearly half has been paid for school buildings; 1,464,226*l.* for sites for the buildings; 1,367,779*l.* for teachers' salaries; 469,001*l.* for miscellaneous expenses, including fuel and light, rents, taxes, and insurance, repairs, contributions to industrial schools; 359,530*l.* for loans with interest; 356,068*l.* for salaries of the Boards' officers; 334,313*l.* for books, stationery, and printing; 301,562*l.* for furniture; 135,812*l.* for legal and election expenses; and 29,891*l.* for fees for children. In order to arrive at any general results of this nature it is necessary to make various elaborate calculations from the accounts printed in the Education Department's Reports, and it would greatly add to the utility of these important blue-books if summary tables showing general results were given in the same form year after year, so that comparisons spread over a series of years would be possible at a glance. As a matter of fact the summary and percentage tables given since the passing of the Act of 1870 have differed almost every year, and thus the only way to form an accurate estimate is to work out tables *de novo*. If tables similar to those supplied in the Statistical Abstracts of the United Kingdom were added to these Reports their value would be very largely increased.

Another interesting and by no means unimportant question in connection with this subject is the relative cost of education in the schools of the Boards as compared with the voluntary schools. The cost of maintenance of each child in average attendance in the Board schools in the year ending the 31st of August, 1876, was 2*l.* 1*s.* 4½*d.*, and in the voluntary schools 1*l.* 13*s.* 5½*d.*, or 7*s.* 11*d.* per child in the Board school in excess of the voluntary schools, while in Scotland the average cost of maintenance in the Board schools, was 5*s.* 6*d.* per child in excess of that in the voluntary schools. The sources from which the outlay for the year ending 31st August, 1875, was met were as follows:—

Source.	English Schools.						Scotch Schools.					
	Board.			Voluntary.			Board.			Voluntary.		
	£	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*
Rates	1	2	2¾		...		0	14	9¼		...	
Subscribers		...		0	8	8¾		...		0	6	9¾
Payments by Children	0	9	1¾	0	10	6¾	0	11	11¼	0	12	11¼
Endowment	0	0	0¾	0	1	2¼	0	0	6¾	0	1	7
Government Grant ...	0	11	5¼	0	12	9¾	0	13	6	0	12	11¼
Total ... £	2	2	10	1	13	2¾	2	0	11¼	1	14	3¾

These figures, within a few pence, show that the voluntary schools, while far less costly, still hold their own in the competition with the Board schools which has in many cases told so hardly upon them, and even last year the Government grant earned by each child in the voluntary schools was 3*d.* in excess of that earned in the Board schools. The extent to which the friends of the voluntary system have exerted themselves to maintain their schools, a course which they were, as we have already shown, virtually invited by Mr. Forster to adopt when he introduced the Act of 1870, is proved by the fact that while the voluntary schools showed an average attendance last year of 1,656,502, the average attendance in the Board schools was only 328,071, or less than one-sixth, the Established Church standing first with an average attendance of 1,217,619; the Boards next with 328,071; the British, Wesleyan, and other Protestant Nonconformists third on the list with 327,914, and the Roman Catholics fourth with 110,969. The probability seems to be that the operation of the Act of 1876, in abolishing what were termed the fines upon poor schools, or in other words, in removing the disability to receive the Government grant owing to their income falling short of the amount earned, will materially assist the voluntary schools to keep afloat, while the power of establishing attendance committees to compel the attendance of children at voluntary schools in districts where there are no Boards can scarcely fail to tend in the same direction. The extent to which this latter provision has been acted upon is shown by the announcement that such committees have been formed in all but three of the 106 municipal boroughs which are not under the jurisdiction of School Boards, and in 412 out of 587 unions. By this means, and with the aid of societies such as that recently formed for the dioceses of London, Winchester, and Rochester, for granting aid to poor Church schools, there seems every probability that the friends of the voluntary system will be able to hold their own. Competition there must always be, for by the nature of things Boards who have only to issue a precept which a vestry cannot refuse to pay, will always be able to offer inducements to masters and mistresses, if not to children, which will excel those of the voluntary schools, but it may be hoped that there will ultimately be a cessation of rivalry and of that hostility which has, it must be admitted, been fostered by the action of persons who wished to make the Boards, unsectarian as they are supposed to be, serve the purposes of this or that party.

One of the most important directions in which the operation

of the School Board system has effected a change in educational affairs is in the supply of what the Committee of Council in their report term "Teaching Power," and in the rate of remuneration which teachers can command. In both these points the Act of 1870 has exercised a material influence, for not only has the number of teachers increased to a very considerable extent, but the salaries which they can command have risen in a corresponding degree. On the 31st of December, 1869, before the Act came into force, there were 12,842 pupil teachers, 1,236 assistant teachers, and 12,027 certificated teachers working in schools under Government inspection, giving a total of 26,105. On the 31st of December, 1876, the numbers had risen to 30,626 pupil teachers, 2,921 assistant teachers, and 23,328 certificated teachers, or a total of 56,875, giving a net increase of teaching power of 30,770. This supply, although not equal to the demand, is fairly satisfactory, and it is important to note that we have now at work 23,328 certificated teachers, while even if the average attendance rose to the figures of the Education Department representing the number of children who ought to be in daily attendance, viz., 3,250,000, we are within 3,672 of the number of certificated teachers which they consider would be required, giving on the average one certificated teacher to every 120 children. In order to meet the future wants of the country in this respect the National Society has resolved, with the co-operation of the Society for Promoting Christian Knowledge, to establish new training colleges for schoolmistresses, and a college is to be opened at Tottenham early in the ensuing year. At present the Government and the School Board have done nothing in the way of erecting or maintaining colleges, and as long as the religious bodies do the work it is improbable that either the imperial Government or the Local Board will be disposed to interfere. As matters stand the Church of England thus still has in her hands the training of two-thirds of the masters and mistresses of our primary schools, as the following table conclusively proves :—

Religious Body.	Students Resident in 1871.			Students Resident in 1877.		
	Male.	Female.	Total.	Male.	Female.	Total.
Church	780	920	1,700	977	1,102	2,079
British	162	124	286	190	256	446
Wesleyan	76	60	136	131	105	236
Congregational	24	26	50	24	26	50
Roman Catholic	70	73	143	55	161	216
Total	1,112	1,203	2,315	1,377	1,650	3,027

This table shows that no effort has been spared to keep the training of the teachers in the hands of the religious bodies, and if they persevere in the provision of suitable colleges there is no reason to believe that their work in this respect will be disturbed.

The existing colleges can, it is estimated, give accommodation and training to upwards of 3,000 students, and can furnish a yearly supply of about 1,500 masters and mistresses with two years training, a number sufficient to replace the annual waste, calculated at 6 per cent. in a staff of 25,000 teachers. In order, however, not to press too hardly upon the colleges the Education Department has, in accordance with Article 59 of its Code, granted certificates, without examination, to persons who, after having been for some years in charge of schools, are reported by the Inspectors to be efficient teachers, and have given a practical proof of their efficiency in the well-ordered schools under their control. This relaxation of the rules was made on the 1st May, 1871, and since that date certificates have been granted to 910 male and 1,215 female teachers, while provisional certificates enabling the teacher to take charge of small schools have been given to 1,936 teachers, of whom no fewer than 723 have since received the ordinary certificates after examination. The salaries of the teachers vary from under 50*l.* for the males up to more than 300*l.*, and for the females, from 50*l.* to 200*l.* The number of male teachers on the 31st of August, 1876, receiving less than 50*l.* a year was 146; from 50*l.* to 75*l.* the number was 1,196; from 75*l.* to 100*l.* it was 3,198; from 100*l.* to 150*l.* it was 3,952; from 150*l.* to 200*l.*, 1,118; from 200*l.* to 250*l.*, 349; from 250*l.* to 300*l.*, 96; and above 300*l.* no fewer than 42. The females' salaries commence at a lower sum, and range from 40*l.* to 200*l.* in the following proportions: 726 at 40*l.*; 688 at 45*l.*; 738 between 45*l.* and 50*l.*; 2,611 from 150*l.* to 200*l.*, and 9 over 200*l.* These salaries are very considerably higher than the average of years prior to 1870, and the difficulties of maintaining the voluntary schools have been increased on this as on other grounds.

Another point on which public interest has been excited in connection with the working of the School Board system has been the character of the religious teaching afforded in the schools under the control of the Boards. This is to a certain extent left to the discretion of the Boards, but only to a certain extent, as the restrictions placed upon their action are very considerable.

In some cases the Boards use the liberty allowed to them to a very considerable extent, but under the Cowper-Temple clause their hands are so completely tied that they may not authorise the Church Catechism to be taught. Some Boards, however, go to the other extreme, and not only act up to the letter of the law in eliminating what may be termed dogmatic instruction, but in twenty-seven schools it appears that the reading of the Bible is forbidden, while in sixty-eight others all religious instruction is excluded. A return to the House of Commons published during the last session gives compiete and trustworthy information on these points, and shows, in some cases with almost amusing minutiæ, how materially the views of the Boards differ in various parts of the country. Under some Boards the singing of hymns, prayers, and the reading and explanation of the Bible or Scripture history, form part of the daily curriculum, while the Lord's Prayer and the Ten Commandments are required to be taught to the children. In others we find that the reading of the Bible is to be "without note or comment," while "no religious hymns are to be used or sung;" that "the teacher is not allowed to enter upon those doctrines which are the subject of dispute among professed Christians;" that passages "involving doctrine, such as St. John vi., are to be read and passed over;" that "the teachers are not to draw from the facts (read by the children in the Bible) inferences of a doctrinal character;" "that the Holy Scripture shall be read but no explanation shall be given except on questions of chronology, geography, history, and national customs;" "that no religious dogma is to be taught;" that there shall be "Bible reading without any religious explanation." These regulations will be sufficient to show how thoroughly some Boards have resolved to adhere to the letter of the Act of 1870 in prohibiting any denominational teaching, while others have gone so far that even the ordinary questions suggested by an intelligent reading of the Bible may not now be answered by the master if they suggest in any way anything of a sectarian or dogmatic nature. Under such circumstances it is surprising to find that religious instruction of any adequate character is possible in a Board School, but at the same time it may be stated that a very high tribute has been paid to the teaching given under such Boards as that of London, and the examinations of the children in the London Board's Schools show that in this respect the children are thoroughly grounded at least in the facts of the

Bible story. There is, however, a growing disposition to regard the question whether any religious instruction at all shall be given at the Board Schools as one which ought not to be relegated to the Boards for decision, and Mr. Gedge, the solicitor to the London School Board, when speaking at the Church Congress at Croydon, recommended that the system of teaching the Bible which prevails under the London Board should be enforced everywhere. Here then is the *vexata quæstio* of modern education, and this is obviously not the place to enter upon its consideration. It has been the subject of much debate at the National Society's annual meeting, and at the meetings for the election of School Board members, but unless the agitation which is still being carried forward for the repeal of the Cowper-Temple clause is successful, it is difficult to see how the Boards can legally and conscientiously do more than has been done under the London Board. In all cases the restrictions of the Act must prevent that full exercise of the teacher's powers without which the Scripture lesson becomes little more than a repetition of a chapter of sacred history, just as if it were a chapter from the more secular records of Greece or Rome. Another question which is being discussed with much spirit as this paper is passing through the press is the so-called Communistic action of the School Board system, to which Mr. Kempe, the rector of St. James's, Piccadilly, has called attention. On this point, however, our space forbids us to enter, and we cannot better conclude than by an expression of satisfaction that the attitude of the clergy and of churchmen towards the Boards is so different from what it was shortly after the passing of the Act of 1870, that we may hope, with a little mutual toleration, to see the Boards and the promoters of the voluntary schools yet live and work amicably together.

CHARLES MACKESON.

THE ARTIZANS' AND LABOURERS' DWELLINGS ACT.

Among the more prominent and encouraging features of modern domestic legislation in this country is the practical recognition of the principle, that the most efficient and enduring means of elevating the social and moral condition of the poorer classes consists in improving the character of their dwellings, and the various surroundings of the same. It has long been admitted that unhealthy and overcrowded homes are the prolific sources of many grievous social and physical evils, which tend to impede the proper development of the prosperity and welfare of the general community ; and so far back as the time of Queen Elizabeth the law sought to provide a remedy, for the statute of the 31st Eliz., cap. 7, provided that there should not be any inmate or more families or households than one dwelling or inhabiting in any one cottage, made or to be made or created, upon pain that every owner or occupier of such cottage, placing or wilfully suffering any such inmate or other family than one, should forfeit 10*s.* for every month that such inmate or other family than one should dwell in it. The statute also provided that no cottage should, for the future, be built without four acres of land attached to it. But this provision did not extend to cottages in towns, or for mineral works, navigation, sheepcotes, &c. From the number of decisions in the books, it would appear that the provisions of the statute were extensively enforced against the overcrowding of the tenements ; but the obligation for attaching the four acres of land impeded the erection of new tenements, and occasioned inconvenience, leading to the repeal of the whole statute by the 15th Geo. III, cap. 32. In a temporary Act passed in the 35th Elizabeth, for the reforming of the great mischiefs and inconveniences that "daily grow and increase by reason of the pestering of houses with divers families harbouring of inmates" that occurred in the city of London and Westminster, it is recited that the practice had been productive of "great infection of sickness." "This effect," observes Mr. Edwin Chadwick, "could scarcely have failed to be perceived when the Plague was frequent and dreadful in its visitations. The exemption from it is ascribed to such widening of the streets and improvements of the houses as took place after the Fire of London, which thus became a source of public benefit."

But although the enormous amount of irremediable mischief

occasioned by overcrowding and deficient sanitary arrangements were officially recognised, no real attempt to furnish an effectual means of remedying the same was made until about forty years ago, when the Poor Law Commissioners, startled by the alarming increase in the number of pauper fever patients in the metropolis, instituted an inquiry into the causes thereof, the result being the publication of two Reports, one by Dr. Neil Arnott and Dr. James Phillips Kay-Shuttleworth, and the other by Dr. Southwood Smith, physician to the London Fever Hospital, in which the extensive sickness and mortality prevailing amongst the London labouring poor were distinctly traced to preventible causes, the principal being the defective sanitary character of the neighbourhoods inhabited chiefly by the humbler classes. The descriptions furnished by Dr. Southwood Smith of the localities visited by him were of a very painful and even revolting nature, and produced a deep impression on the public mind, and his investigations conclusively demonstrated the necessity for immediate legislative interference of some kind or other for the purpose of enforcing proper sanitary regulations in districts where they were most urgently needed. The Poor Law Commissioners, perceiving the importance of the labours which Dr. Southwood Smith had so energetically commenced, gave him further instructions, the result of which was that, on the 29th of April, 1839, they received from him a "Report on the Prevalence of Fever in Twenty Metropolitan Unions or Parishes during the Year ended the 20th March, 1838," which they appended to their Fifth Annual Report. A notice of Dr. Southwood Smith's reports, also that of Drs. Arnott and Kay Shuttleworth, was given in the *Companion* for 1840. On the 19th of August following, the Bishop of London moved in the House of Lords that an address be presented to the Queen, with the view of obtaining an extension of the inquiry instituted by the Poor Law Commissioners to other parts of England and Wales. This being assented to, a large amount of valuable information was procured, the substance of which was embodied in a full and comprehensive "Report on the Sanitary Condition of the Labouring Classes of Great Britain," by Mr. Edwin Chadwick, Secretary to the Poor Law Commissioners. This gentleman, who has since repeatedly distinguished himself by his devotion to the cause of sanitary reform, and the advocacy of all wise and well-considered measures calculated to promote the social and moral advancement of the masses, performed his work of epitomising

the evidence thus obtained in such a complete and satisfactory manner, that the Report to which his name was appended furnished a most convincing and unanswerable argument in favour of the adoption of a system of sanitary legislation. Mr. Chadwick's Report, which made its appearance in 1842, was fully noticed in the *Companion* for 1843, and formed the basis of further and more systematic inquiries, with the object of enabling the Government to frame suitable measures for the protection of the national health. These investigations were entrusted to a Commission appointed in 1844, by whom long and elaborate Reports were presented in the same and following years. The evidence obtained by the Commissioners showed that the deplorable and dangerous manner in which large numbers of the metropolitan labouring poor were found lodged was by no means peculiar or exceptional, there being few cities and towns in the United Kingdom in which a similar state of things did not prevail to an extent which made the cultivation of habits of decency and self-respect almost impossible amongst the larger portion of our industrial population. The anticipated approach of the cholera in 1845 led to the hasty adoption of "The Nuisances Removal Act," and afterwards to the passing of "The Baths and Washhouses Acts" of 1846 and 1847. In 1848, the public, having at last perceived the utter inutility of spasmodic efforts to arrest the progress of pestilence, gave a somewhat lukewarm support to "The Health of Towns Act," which thus became the predecessor of various other measures intended to assist in promoting the sanitary welfare of the community, the efficient working of the same being afterwards considerably facilitated by the passing of "The Local Government Act" in 1858. A review of the circumstances which led to the adoption of "The Public Health Act" will be found in the *Companion* of that year, the subsequent progress of sanitary legislation being detailed at some length in the *Companion* for 1859.

Unfortunately the work of sanitary legislation was rendered incomplete in consequence of the unintentional omission to provide for the erection of proper working-class dwellings in place of those condemned as unhealthy and unfit for use as human habitations. It was too hastily assumed that landlords who were compelled to pull down tenements found deficient in the sanitary requirements which the law demanded, would readily build others of a better character for the same class of tenants as those formerly possessed by them. The increasing value of land,

and the improved nature of the localities, generally led, however, either to the erection of residences of a more expensive description, or of large industrial establishments, the proprietors of which naturally preferred such neighbourhoods, by reason of the building sites being considerably less costly than those situated in main thoroughfares. Thus the rigid enforcement of the various sanitary laws tended to reduce the number of dwellings available for the poorer classes. But the diminution of cheap lodging accommodation thus occasioned was small compared with that occasioned by the numerous wholesale demolition of working-class neighbourhoods during the progress of metropolitan street improvements and railway extension schèmes. Within the last twenty years, thousands of small tenements in Bethnal Green, Shoreditch, Whitechapel, and other densely populated districts, have disappeared, without the slightest provision being made for housing the myriads of families thus ruthlessly deprived of their accustomed means of shelter. It has been estimated that the extension of the North London Railway from Dalston to Liverpool Street displaced two or three times the actual number of artizan families that could have been accommodated in the various metropolitan model dwellings, if the whole of the latter had been placed at their disposal. The neighbourhoods selected for making new thoroughfares, or effecting necessary extensions of the metropolitan railway systems, are usually of the poorest and most wretched description, and, under ordinary circumstances, the changes effected would be viewed with feelings of relief; but when we consider the densely packed character of the various dwellings, and the immense amount of privation, suffering, and misery entailed on large numbers of the humblest and most helpless section of the London population, it is impossible to contemplate such saddening and disastrous results without experiencing something akin to dismay, if not positive alarm.

In 1866, so glaring had become the danger of a prolonged continuance of the deficient dwelling accommodation at the command of the London poor, that a measure, known as "The Labouring Classes Dwelling-houses Act," was passed, which, in connection with the "Labouring Classes Lodging-houses Act of 1861," enabled local authorities to construct dwellings for artizans and others of a similar social grade, and to defray the cost of the same by means of loans obtained at the rate of 4 per cent. on the security of the property or of the local rates, yet so little use was made of the facilities thus afforded, that two years later, in 1868,

Mr. McCullagh Torrens, M.P., introduced "The Artizans' and Labourers' Dwellings Act," which was adopted by Parliament, but with such modifications that its practical value became seriously impaired. It gave power to local authorities to compulsorily repair or demolish unhealthy tenements occupied by the labouring poor, but the principles of compensation and re-construction which formed the most conspicuous features of Mr. Torrens's original bill, were vetoed by the House of Lords. To this circumstance must be attributed the comparative failure of the measure, for in most of the great centres of industrial activity it became treated as if a dead letter. During the seven years of its existence it was only put in operation in three places, a significant commentary on the injudicious policy which had led to its intended usefulness being impaired by the withdrawal of the clauses which distinguished it from other measures of like character. In its final shape the Act was scarcely needed, for it was speedily found that all which could be effected by its agency, could be accomplished also, and more readily, by the "Nuisances Removal Acts."

In 1874, the Royal College of Physicians memorialised the Government on the importance of taking into consideration the possibility of improving the dwellings of the artizan classes. Such a step on the part of an institution representing a class of individuals who knew more, perhaps, than any others, of the character and extent of the evils for which they sought a legislative remedy, naturally attracted much attention, both in and out of Parliament. In the memorial great stress was placed on two facts, the continual diminution in the number of dwellings available for the use of the labouring poor, and the overcrowding of existing dwellings, which was one of its immediate consequences. "Overcrowding," it was observed, "especially in unwholesome and ill-constructed habitations, originates disease, leads to drunkenness and immorality, and is likely to produce discontent among the poorer classes of the population." This was merely repeating what Dr. Arnott, Dr. J. K. Shuttleworth, Mr. Edwin Chadwick, and other eminent sanitary reformers, had stated in previous years, yet it was not a little startling to find that, after more than a quarter of a century of sanitary legislation and improvements, we were called upon to fight several of the difficulties and evils which it was fondly imagined would have disappeared under the working of the various Acts of Parliament intended to aid the cause of sanitary progress. In the

following year, Mr. Kay-Shuttleworth, M.P., formally brought the subject of overcrowding under the notice of the House of Commons. In so doing, he gave an account of a visit made by him to several of the poorer London neighbourhoods within a short distance of the leading Government offices. Amongst these places was Bedfordbury, a long, narrow, wretched-looking thoroughfare, situated not more than a stone's throw from the National Gallery. Here Mr. Kay-Shuttleworth found existing many sanitary evils, with which the law, as it then stood, was wholly powerless to deal. There were several narrow courts, scarcely wide enough for two persons to walk abreast, approached by tunnels under houses, apparently destitute of proper means of ventilation, the dwellings were densely inhabited, each room being, as a rule, tenanted by a single family, the high cost of lodging accommodation preventing the bulk of those compelled to reside in the locality from enjoying the luxury of two apartments. Under such circumstances, it is not strange that, weary of the continual struggle with dirt and discomfort, many of the Bedfordbury folk should prefer the glittering but numerous attractions of the neighbouring gin palaces to the cheerless surroundings of these so-called homes! Many of the dwellings visited by Mr. Kay-Shuttleworth were built closely back to back, while the small confined spaces which separated others, were filled with decaying refuse which contaminated the close and oppressive atmosphere. The air of squalor and misery which pervaded the locality was most disheartening and unbearable; yet Bedfordbury, with all its filth, stenches, and pitiable wretchedness, was merely a type of numerous similar localities with which sanitary legislation, even of the most stringent character, was wholly powerless to deal. In not a few instances the owners of tenements evinced a desire to promote habits of cleanliness amongst their tenants. It is possible that in so doing they were actuated by purely selfish motives, seeing that the success of their efforts would tend to free them from the unwelcome visits of medical officers of health and inspectors of nuisances, but whatever might be the reasons by which they were animated, they seldom found their proffered advice and assistance readily accepted. The tenants had become so familiar with the presence of dirt and disease, that they had learned to regard them somewhat in the light of inevitable accompaniments of human existence. Hence the almost unanimous feeling of mingled relief and satisfaction elicited by the announcement

that the Government intended to meet the motion of Mr. Kay-Shuttleworth, by introducing a measure which would facilitate, not merely the demolition of unhealthy neighbourhoods, but also the construction of wholesome and commodious groups of working-class buildings in their place. In his reply to Mr. Kay-Shuttleworth, the Home Secretary, Mr. Cross, frankly admitted that a clear case had been made out for legislative intervention. There could be no question that so long as the habitations of the poorer labouring class continued to be pulled down in the wholesale fashion so common of late years, without making room for the numerous families turned adrift into the streets by the demolitions, so long would our sanitary Acts remain stationary if not wholly inoperative, and such painful revelations of social demoralisation, as those contained in the official reports of Mr. Siddle continue to shock and appal the public mind. In pursuance of the promise made by him, Mr. Cross subsequently laid before the House of Commons a measure now popularly known as "The Artizans' and Labourers' Dwellings Act," a title identical with that bestowed on the Bill introduced by Mr. McCullagh Torrens seven years previously, and which at first created some little confusion amongst those not aware of the wide difference in the character of the two measures. The proposals of Mr. Cross were readily accepted by both Houses of Parliament; although the Earl of Rosebery expressed a doubt lest the fear of increasing the rates should deter ratepayers from setting the law in motion: and in the Royal Speech, delivered at the close of the session of 1875, not the least important or interesting paragraph was that in which Her Majesty said: "I have with pleasure given my assent to an Act for facilitating the improvement of the dwellings of the working classes in large towns, which will, I trust, lead to the decrease of many of the principal causes of disease, misery, and crime. I feel sure that this legislation, together with that relating to the consolidation and amendment of the Sanitary laws, and of the laws relating to Friendly Societies, will greatly promote the moral and physical welfare of my people."

The Act, to which such emphatic allusion was made, filled up a wide gap in sanitary legislation, and assisted in creating an entirely new state of affairs, so far as the means of effecting sanitary improvements in localities occupied chiefly by the labouring classes was concerned. Its professed object was to facilitate the removal, re-arrangement, and re-construction of houses, courts, and alleys in the poorer and more densely populated parts of

London, and of the larger urban sanitary districts in England and Ireland. The Act was to be put in force where the buildings were closely crowded together, or where, from want of light or ventilation, or other cause they had become a source of fever and disease, and by reason of the premises being owned by separate persons, it was difficult to secure the co-operation necessary for their general improvements. It was originally intended by Mr. Cross that the Act should not apply to towns containing less than 50,000 inhabitants; but in consequence of urgent representations, the minimum number was ultimately fixed at 25,000. Hitherto the law had not done more than to compel the individual owners of unhealthy houses to repair or demolish the same, on pain of the work being done at their cost by other parties. Under the new Act buildings could be handed over, not singly, but in groups more or less extensive, to the local authorities, who were authorised to purchase the same, together with surrounding properties, and deal with the whole on a broad and comprehensive plan, certain primary conditions being exacted with the view of preventing any possible abuse of the powers conferred by the Act.

Profiting by the experience of previous legislation, two separate authorities were made indispensable to the successful working of the Act, each being a kind of check upon the other. The first step belongs to the local authority. In the City of London this is represented by the Commissioners of Sewers, and in the rest of the metropolis by the Metropolitan Board of Works; while in the provinces it is represented by the sanitary authority of each suburban sanitary district. The action of the local authority must, to be legal, receive the approval of the proper confirming authority, which is, in the case of the City of London, and the metropolis generally, the Home Office, and for the rest of the country, the Local Government Board. The initiative step in enforcing the provisions of the Act belongs to the medical officer of the district, but should he fail in the proper discharge of his duty, there are means for compelling him to comply with the requirements of the Act; and should he continue neglectful of his functions, the confirming authority may interfere by sending an independent officer to ascertain whether it is necessary that the Act should be put in force or otherwise. A safeguard is thus formed against the negligence which in many parts of the country has made sanitary legislation little better than a mere name. A medical officer of health is allowed very little discretion in the

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matter, for, practically, he is compelled to report the existence of any unhealthy locality in his district. If the local authority, to whom his representations are made, find the same to be well grounded, and that the houses, courts and alleys in any given area are unfit for human habitation, or that the population residing therein are suffering from a low state of health, traceable to the closeness and bad arrangement of the streets and houses, or to the want of light, air, ventilation, and proper conveniences; and that the same cannot be effectually remedied save by means of an improvement scheme, the latter is to be prepared accordingly. Should, however, the local authority fail to do this, the labour may be undertaken by the confirming authority. It will be thus seen that every care has been taken to secure the efficient working of the Act, and that although, as we shall subsequently show, there are many parts of the United Kingdom wherein its provisions are at present inoperative, yet, sooner or later, they must be enforced, however distasteful the work of sanitary improvement may be to those who derive gain from the continued existence of a state of things prejudicial to public health and morality.

Considerable latitude is allowed in the preparation of the improvement scheme, which must be accompanied by maps and plans, showing both the general character of the objectionable neighbourhood, and the nature of the alterations intended to be effected. The only condition from which no deviation is permitted is that the improvement scheme, whatever may be its extent or character, shall provide for the accommodation of at least as many individuals as will be displaced during the work of carrying it out. As it is possible by substituting large commodious buildings, of the model dwelling class, for the small and inconvenient tenements now so common in such places, there can be no difficulty in providing for a considerable larger number of inhabitants, and at the same time replacing the dark, narrow courts and alleys by broad and airy streets. The improvement scheme having been duly prepared, it is submitted to the confirming authority, by whom a local inquiry is ordered. This is for the purpose of preventing undue haste or improper interference with local interests. In fact, every precaution has been taken to guard against the possibility of the Act being used as an instrument of tyranny or injustice. If the local inquiry be satisfactory the confirming authority is empowered to make a provisional order, declaring the extent of the area to be improved, and

authorising the scheme to be carried into execution. The gain thereby effected is considerable. Instead of the costly machinery of a private Bill, which has repeatedly prevented the execution of public improvements in different parts of the country, the work is done by local inquiry, Provisional Order, and confirming Bill, which the Home Secretary saves the local authority the trouble of passing through the legislature. Should any individuals be desirous of opposing the scheme, they may petition the House that the Bill confirming the Provisional Order be referred, in the usual way, to a Committee, but should they fail to prove their case they are liable to be mulcted in costs.

The improvement scheme having been properly sanctioned, the local authority is at liberty to put the same into execution by selling or letting the area upon building or other leases, with appropriate stipulations, covenants, and provisions. Engagements of this kind may be entered into with societies or trustees, but, save in exceptional instances, and then only with the sanction of the confirming authority, the works may not be executed by the local authority. The prudence of this arrangement is obvious. It prevents local authorities from indulging in those expensive speculative tastes which have so frequently resulted in seriously increasing the burdens of ratepayers. It also furnishes building and similar associations with a means of safe and profitable investment for their surplus capital. The local authority may, however, undertake the labour of pulling down old buildings, and the construction of new streets, also the necessary sewage, paving, and lighting works in connection therewith. The price of the lands and of the buildings on the same, is to be assessed on the general principle of a fair market value. It is customary, when lands are compulsorily purchased for purposes of enterprise, to allow a bonus of 10 or 20 per cent. for the enforced sale, but under the Act no such consideration is permitted, thereby removing what would otherwise prove an inducement to jobbery and misexpenditure. In estimating the value of lands, and of the buildings upon them, due regard is to be had to the nature and the condition of the property, the probable duration of the buildings in their existing state, and other matters affecting their character; thereby putting an end to the system of purchasing dilapidated and unhealthy property with the object of making a profit out of its compulsory sale, whereby the cost of effecting public improvements has repeatedly been increased to a most serious extent. Should any of the lands comprised in

the scheme remain unsold or unlet at the expiration of five years from the date of sanction, the confirming authority is empowered to step in and dispose of the same by auction, subject to the condition that the dwellings to be erected thereon shall be for the use of the labouring classes.

The funds necessary for giving due effect to an improvement scheme are obtainable in the City of London by mortgaging the rates; in the remainder of the metropolis, by the creation of consolidated stock; and in the provinces through the Public Works Loan Commissioners. Where special Acts are in force, as at Glasgow, Edinburgh, and Liverpool, they may be abandoned in favour of the new Act, which, in several respects, especially as regards the principle on which compensation is to be made to owners of property required for the necessary improvement, is cheaper, more speedy, and less productive of dispute. It has been pointed out, that in the Act, "the procedure of the Irish 'Lands Clauses Act,' which has been successfully in use for twenty-five years, has been adopted. There are no special juries, except by way of appeal, and a single arbitrator is appointed in the first instance, instead—as under the English Lands Clauses Act—of two, who seldom agree in their views, and have a direct interest in prolonging the proceedings as much as possible." In framing the Act the Government appear to have determined on removing every pretence for unnecessary expense, so that there should exist no obstacle to its proper enforcement in all localities to which its provisions are applicable. Neither is the Act confined in its operation to any one portion of the United Kingdom, the whole of its clauses applying not only to England, Wales, and Ireland, but also, by a separate enactment, to Scotland.

"The Artizans' and Labourers' Dwellings Improvement Act, 1875," thus briefly sketched, forms one of the most valuable and efficient sanitary measures of modern times, for, if properly enforced, it cannot fail to aid in achieving a complete revolution in the present physical and social condition of the British labouring classes, the fruits of which will, at no distant period, become perceptible in a marked diminution of that vast amount of intemperance, immorality, pauperism, and disease, which has so long formed an obstacle in the path of popular progress. The necessity for legislation of the character created by the Act was shown, not merely by the numerous expressions of public approval which accompanied the passage of the measure through

both Houses of Parliament, but also by the eagerness with which the local authorities in several of the more densely populated metropolitan districts prepared to avail themselves of the facilities furnished directly it had received the Royal sanction. To the Holborn district belongs the honour of being the first to seek the enforcement of the provisions of the Act; the formal representation made by Dr. Septimus Gibbon, the local medical officer of health, being to the effect that the extensive and densely populated neighbourhood bounded by Gray's Inn Road on the west, Leather Lane on the east, Portpool Lane on the north, and Greville Street, with Fox Court, on the south, was, in his opinion, an unhealthy area for the purposes of the Act. The Metropolitan Board of Works, as the confirming authority, after an inspection of the locality, found that there were included in the area described by the medical officer many houses which could not fairly be deemed unfit for human habitation, and therefore did not come within the purview of the Act, could not properly be taken, unless absolutely required for the formation of approaches. It was also ascertained that rather more than a quarter of the whole area was occupied by substantial business premises, public wash-houses, and St. Alban's Church and National School, the acquisition of which would add at least 50 per cent. to the cost of purchase. A modified scheme was eventually approved, which comprised an area of four acres, of which one and a-half were to be devoted to new or widened thoroughfares. The original scheme provided for the construction of not less than 950 tenements, viz., 650 of one room, 250 of two rooms, and 50 of three rooms, affording accommodation for 3,500 persons, being 70 more than the estimated number of the working class to be displaced; and in addition to other important widenings and approaches, a new street, forty feet in width, was to be formed between Gray's Inn Road and Leather Lane. The net cost of the scheme, including the making of the roads, was estimated at £64,000. At a later stage the scheme was considerably reduced and otherwise modified, and, as finally settled, it proposed to deal with a population of 1,611, occupying 582 rooms, which was to be accommodated in new dwellings, five storeys in height, containing 750 rooms. A petition was presented to the Secretary of State for his confirmation of the scheme; and on the 27th of April an inquiry was held at the offices of the District Board of Works, before Mr. D. Cubit Nichols, the commissioner appointed for that purpose, when the

advisers of Lord Leigh, and one or two landowners were present as objectors. On the 20th June a letter was received from the Secretary of State to the effect that he was unable to confirm the scheme, as being, for various reasons, inadequate and unsuited to the wants of the locality. Here the matter at present rests.

The second official representation under the Act was made by Dr. Liddle, the medical officer of health for the Whitechapel District, and related to an area covered chiefly by courts and alleys, there being few business premises within the block. The scheme provided for the construction of 1,077 tenements, affording accommodation for 3,600 persons, being 60 more than the estimated number of the working class to be displaced. The mortality within the area was proved to be at least 54 per 1,000 per annum, as contrasted with about 22 per 1,000 in the metropolis generally, and it was shown that the space allotted to each inhabitant did not in some courts exceed three and a-half square yards. The net cost of the scheme was approximately estimated at £62,000. Subsequently three additional official representations were received from Dr. Liddle, with reference to a number of courts and alleys situated in one of the worst parts of the district, and inhabited by a class of low, if not criminal, character. The scheme, prepared in accordance with the statements thus made, provided accommodation for 3,967 persons, in 1,880 rooms, in place of 1,483 rooms then occupied by them. In addition, several streets were to be considerably widened, the estimated total cost of the improvements being £147,773. The localities thus selected to be improved have for many years enjoyed the unenviable reputation of being among the plague spots of the metropolis; in which pauperism, vice, and crime were continually to be found in their most repulsive and sickening aspect. The amount of disease and mortality has invariably been greater in these places than in the surrounding neighbourhoods, although the latter are occupied by dwellings inhabited principally by labouring-class families.

The example thus afforded by the Holborn and Whitechapel districts was speedily followed by those of Marylebone, St. George-in-the-East, St. George the Martyr, Southwark; Bermondsey, Islington, Clerkenwell, St. Luke's, St. Giles, Strand, Poplar, St. Martin's-in-the-Fields, Chelsea, St. George, Hanover Square; Westminster, Limehouse, Shoreditch, Greenwich, St. Pancras, and Lambeth. In several instances, namely, Southwark, Islington, Whitechapel, Clerkenwell, St. Giles, St. Martin's-

in-the-Fields, and Westminster, the improvement schemes, ten in number, have been sanctioned by the Home Secretary, and, with slight modifications, confirmed by Parliament. These various schemes will provide accommodation for 14,314 persons, in 7,020 rooms, in place of 5,782 rooms at present occupied by them; the estimated cost of the improvements being £412,199. This, it must be confessed, is a most encouraging commencement. Two schemes, those prepared in connection with the Strand and St. George, Hanover Square, districts, were refused, on account of the limited nature of the areas proposed to be improved. In the remaining districts schemes are either under consideration or in course of preparation.

In the City of London no less than twenty-one areas were officially represented as being unhealthy within the meaning of the Act. The united size of these areas was about 442,369 square feet, the population being extremely dense, and the dwellings of the worst possible character. In a report presented to the Commissioners of Sewers, Dr. Sedgwick Saunders stated that there were within the limits of the City 478 houses, containing 2,116 rooms, and inhabited by 4,315 persons, absolutely unfit for human occupation. These prolific sources of dirt and disease were not to be found grouped together in any one neighbourhood, but were scattered over every part of the City. In one instance, that of Seven-Step Alley, the improvement scheme could not be proceeded with, in consequence of the houses being required for the Aldgate extension of the Metropolitan Railway. Amongst the neighbourhoods to which it is proposed the Act should be applied, are several close and badly-ventilated courts and lanes in Bishopsgate, Houndsditch, and the Minories, which have frequently furnished themes for sensational articles in the newspapers. The amount of overcrowding in these miserable and unwholesome portions of the richest city in the world appears almost incredible, it being estimated that, making allowance for rooms not used for sleeping purposes, the population averaged 500 to the acre, about one-half more than that found on the same extent of ground covered by the buildings of the Improved Industrial Dwellings Company. In one instance, the improvement scheme remained in abeyance, in consequence of the owner of the property having undertaken to demolish the buildings at his own expense, but it is not stated whether he intended to replace them with labouring-class dwellings or by others of a superior character. In another case it was decided

by the Home Secretary that the scheme should not be proceeded with, by reason that the houses were in course of demolition, and that the circumstances to which the Act was applicable were no longer in existence. In Golden Lane, we believe, the scheme is being actively proceeded with, and there are good grounds for believing that within a few years the whole of the unhealthy areas in the city will have disappeared.

In the provincial districts there has been comparative slowness in adopting the Act, the list of cities and towns in which no steps have hitherto been taken including Aberdare, Ashton-under-Lyne, Aston, Bath, Birkenhead, Blackburn, Bolton, Bradford, Bristol, Burnley, Burslem, Bury, Cambridge, Cardiff, Carlisle, Chatham, Cheltenham, Chester, Colchester, Coventry, Croydon, Darlington, Halifax, Hanley, Ipswich, Kingston-upon-Hull, Leeds, Leicester, Lincoln, Macclesfield, Maidstone, Manchester, Merthyr Tydfil, Middlesborough, Newport (Monmouthshire), Northampton, Oldham, Oxford, Plymouth, Portsmouth, Preston, Reading, Rochdale, Rotherham, St. Helen's, Southampton, South Shields, Stockport, Sunderland, Tipton, Wakefield, Warrington, Wednesbury, West Derby, West Ham (Essex), Wigan, Worcester, and Yarmouth. Each of these places has a population exceeding 25,000, the total number being 3,495,961. But it must not be assumed that because no action has been taken by the sanitary authorities in these districts, the Act is likely to remain inoperative, so far as they are concerned. Nothing of the kind. As mentioned elsewhere, provision has been made against such apathy or neglect, and if the Government think fit, they possess ample means for compelling the various local boards to perform the duties very properly insisted upon by the Act.

Amongst the places where the Act is under consideration, or where applications have been made for Provisional Orders, are Brighton, Derby, Devonport, Dover, Dudley, Exeter, Gateshead, Hastings, Huddersfield, Newcastle-on-Tyne, Salford, Stockton, Sheffield, Tynemouth, and York.

The first on the list of towns wherein the provisions of the Act are being enforced is Birmingham. Here a clean sweep is to be made of the great mass of unhealthy dwellings which have so long constituted a source of physical and moral mischief in the heart of the great hardware metropolis. The total extent of area to be cleared is nearly ninety-three acres, the estimated cost of the improvements being no less than £550,000. Of the site to be thus altered, nearly eight acres are to be occupied by broad

and spacious thoroughfares. With the view of preventing the serious inconvenience and injury which would inevitably be occasioned if all the demolitions took place at the same time, it has been arranged that the work of improvement shall be of a gradual character, and that not more than five hundred persons shall be displaced at any one period, and that no further clearances shall be made until lodging accommodation has been provided for these. In Liverpool, the extent of unhealthy neighbourhood to be cleared is over several acres, the dwellings covering the same being inhabited by 1,100 persons. It was sought to modify the character of the improvement scheme by erecting ordinary houses and shops on a portion of the land, but the necessary sanction to this was refused, probably from fear of creating a mischievous precedent. The cost of the Liverpool improvements will be £62,254. At Nottingham, an unhealthy area of comparatively small extent is to be cleared, and the site covered partly with shops and warehouses, and partly with working class dwellings capable of accommodating a number equal to that of the population displaced. A marked feature of the scheme consisted in the arrangement whereby the new dwellings were to be erected in an open portion of the space to be improved before the old houses were pulled down. The cost of the improvement is estimated at £9,000. The application of the Act at Swansea necessitated the displacement of 1,753 persons, classified as follows :—"254 prostitutes and loafers, 1,251 artizans, and 248 tradespeople." The expense of effecting the improvement is calculated at £61,280 ; but, deducting the value of the surplus land after the site has been cleared and new streets laid out, the actual cost will not be more than £11,044. At Norwich, the improvement scheme appears to be of a well-considered character. The area included therein is about two acres in extent, containing 144 houses, of the rateable value of £600. The number of persons dwelling in the same is 505, but none of these will be displaced until proper accommodation has been provided for them, as the first batch of new buildings will be erected on a vacant site included within the area. The dwellings will consist of plain, substantial, roomy cottages, ventilated both at back and front, built in rows. Each cottage will have two ground-floor rooms and two bedrooms, each chamber being provided with a fireplace. The dwellings will each be provided with separate and distinct conveniences, water supply, and other sanitary arrangements. The total cost of the improve-

ments thus proposed will be £20,800. At Wolverhampton, the unhealthy area to be dealt with covers an extent of more than eleven acres, and the estimated cost of acquiring the lands and buildings thereon is £162,307, from which must be deducted the sum of £117,000, derivable from re-selling or re-letting the lands and compensation from a railway company, making the actual cost of the improvements £45,307. All the dwellings erected under the scheme are to be well and substantially built, and so situated and constructed as to ensure efficient ventilation. They are also to be furnished with a proper water supply, drainage, and other sanitary appliances and apparatus, and to be in every respect thoroughly healthy and commodious. The net cost of the Walsall scheme is estimated at £10,510, the site selected covering rather more than two acres. The number of persons for whom accommodation is to be made is 342; the dwellings, as in the case of the above-mentioned towns, to be of a perfectly healthy description. The total amount of expenditure incurred in carrying out the above schemes will be £1,571,987, of which sum the principal portion is contributed by Birmingham. Deducting from the gross amount the moneys recouped by selling or letting the lands thus acquired, the actual cost of the improvements will be, according to the estimates, £706,915. It has been calculated that if the Act were enforced in the various English towns to which its provisions are applicable, it would entail an expenditure of from twenty to twenty-five millions sterling, of which about two-thirds would be recouped to the local authorities.

In Scotland no proceedings have as yet been taken under the Act, the two places at which sanitary reform was at one time most needed, Edinburgh and Glasgow, having, some years previously, commenced the work under Acts specially obtained. It should be mentioned that in Scotland a larger percentage of the artizan population than in England possess dwellings of their own, which, in the majority of instances, have been built expressly for them. Hence the newer portions of the Scottish cities and towns inhabited by the working class population do not present the same sanitary deficiencies that are to be found in neighbourhoods of a somewhat similar character where the houses are cheaply run up by speculative builders. In Ireland the Act has been received with perfect indifference, a result occasioned by the persistent manner in which the Irish people, or at least a considerable portion of them, prefer the excitement of political agitation

to the quieter, but more useful and enduring, labour of social and sanitary reform.

It has been suggested that the provisions of the Act might be extended to towns containing less than 25,000 inhabitants, but there appear to be difficulties in the way of doing this successfully. Much, however, might be effected by a few additional clauses in "The Buildings Act," which would prevent the erection of cottages in which the builders, while complying with the strict letter of the law, wholly disregard its spirit. During the last few years thousands of small tenements have been hastily "run up" by speculative builders, on most unsuitable sites, in the Midland districts. Many of these are so damp, that a piece of bread, if left in a cupboard four-and-twenty hours, will become quite mouldy. Such dwellings must always prove a source of danger to the public health, and their erection should be prevented by every possible legal means. It is absurd to talk about permanently improving the homes of the labouring poor so long as we permit such an inexcusable anomaly. It is wiser to prevent than to remedy an evil; and unless we desire that the well-considered and useful provisions of "The Artizans' and Labourers' Dwellings Act" should become neutralised, ample power should be given to local authorities, with the view of enabling them to restrain the increase of dwellings in which the rules of sanitary science are observed more in theory than in practice.

JOHN PLUMMER.

PART II.

ARCHITECTURE AND PUBLIC IMPROVEMENTS, SCIENCE, PAINTING, MUSIC, PHILANTHROPY, LEGISLATION, STATISTICS, AND CHRONICLE OF 1876-7.

ARCHITECTURE AND PUBLIC IMPROVEMENTS.

1. General Progress.—Art and Public Monuments.

Protracted depression in trade, uncertainty in political affairs, strikes of masons, bricklayers, and joiners in London, Manchester, and other great centres of industry, might be expected not merely to have delayed the completion of important works already begun, but to have deferred the commencement of others as yet only projected. Doubtless this has been to some extent the case. There has been a slackening in the building trade, but it has been limited and partial. In our leading streets the diminution has been hardly discernible. Indeed, in spite of commercial dulness, activity in urban architecture seems to be constantly augmenting. Business men everywhere are eager for new buildings, and for buildings which display architectural character and artistic decoration. So marked is this that it may be safely predicted that in civic architecture lies at once the best prospect of steady occupation for the architect in the coming years, and the fairest opening for originality. If an original distinctive nineteenth century style of English architecture is to be invented or developed, it must be looked for in our civic and secular architecture. Ecclesiastical architecture has been tried and found wanting. Our church architects have, in the last quarter of a century, had rare opportunities. Churches have been built by the thousand, and unlimited enthusiasm evoked, but not a scintillation of originality. We have attained the highest point in imitation, and there stopped.

No important national building has been completed in the past year. The architectural triumph of the year is a municipal edifice, the Manchester Town Hall, the noblest work erected for many a past year in a provincial city; we shall speak

more fully of it further on. The Natural History Museum, South Kensington, has made steady progress, but it is not a structure that can be hurried. The novel character of the decoration, which, as we mentioned before, consists of objects in natural history executed in terra-cotta, necessitates great care in the preparation, and a deliberate course of procedure. But the walls are now carried to their full height, and the roofing is in progress. It has been announced, apparently on authority, that the building will be finished in the spring, and the galleries be ready to receive the collections from the British Museum before the autumn of 1878. But 1878 will certainly not see the doors open to the public. The architect of the Natural History Museum is Mr. Alfred Waterhouse, who has just brought the Manchester Town Hall to so satisfactory a conclusion, and it will be no small achievement to have completed two such important undertakings in two successive years.

The Law Courts have scarcely advanced as much as was anticipated. In a work of such magnitude, however, unforeseen difficulties will arise, and we do not believe that any avoidable delay has occurred. The eastern end of the building, now termed the Administrative Offices, is approaching completion, and will, it is said, be finished by next spring. It would be unfair to form a judgment of the building as a whole from this portion of it, but it serves to mark its magnitude and massive character. It shows also the necessity for clearing away at least the block of houses east of it, and preparing a worthier approach on that side, a work that might well be set about at once. It is quite time, too, that Temple Bar, now a merely unsightly obstruction, was removed.

With reference to our national monuments, little need be said. The Wellington Monument in St. Paul's Cathedral has been five-and-twenty years on hand, and is not yet completed. It was to have been finished by the early summer, but new delays have supervened. It is, however, nearly ready. Surrounded by hoarding and all sorts of lumber, it is difficult to estimate it aright, but it promises to be a good work of its kind. Happily, the absurd notion of surmounting the monument with an equestrian statue of the Duke is definitively abandoned.

Last June the Prince of Wales formally unveiled a memorial of England's ancient hero, Alfred the Great. It consists of a statue of the King, of Sicilian marble, standing on a rugged granite pedestal, and occupies the centre of the market-place of

Wantage. It is a gift of Colonel Loyd-Lindsay to the town. Alfred is represented leaning on a battle-axe, and holding in his right hand a parchment roll, emblematic at once of the warrior and legislator. The statue is about eight feet high, and is from the chisel of Count Gleichen. The costume is carefully wrought from A.S. Manuscripts; for the likeness there is no authority. The figure is well modelled, has a manly and dignified bearing, and the work is altogether one of which the old Berkshire town may well be proud.

Another gift unveiled this year is the memorial statue of the Prince Consort, presented to the town of Southampton by Sir F. Perkins, M.P. It is of terra-cotta, modelled by the late Mr. Theed, and stands under the walls of Southampton Castle.

In Parliament Square, within sight of the theatre of their chief toils and triumphs, have been erected (or re-erected), the bronze statues of Palmerston and Peel, the last one of Noble's latest productions: not works of much artistic value, perhaps, but designed to do honour to two men who abundantly deserved a nation's gratitude, and adding something to the picturesque dignity of this central spot of English history. Here we may just refer to the model of Cleopatra's Needle, erected in close proximity to the statue of Palmerston, in order to add an earnest hope that some more suitable place will be found for the original. The Thames Embankment, as first proposed, seems a far better site, and the garden at the end of the Northumberland Avenue would serve as well as any yet suggested. The Embankment has not so far been fortunate in its artistic decorations. All the conspicuously huge pedestals by the landing-places remain unoccupied, and the only recent addition to the promised sculpture, the statue of the younger Brunel, on the other side of the way is a deplorable failure.

A marble statue of Richard Cobden, executed by Mr. Butler, has been placed in the Bradford Exchange. The statue was erected at the cost of Mr. G. H. Booth, an American admirer of the great free-trader, and the task of unveiling it was undertaken by Mr. Bright. A marble statue has been erected in Sefton Park, Liverpool, of a late highly esteemed citizen, William Rathbone. The statue, a very fine one, was designed by Foley, but left unfinished at his death, and completed by his pupil, Mr. Brock. Other memorials have been raised, but these are all that call for record.

2. Public and Sanitary Works.

The work of opening up our overcrowded and unhealthy districts, and providing a better class of labourers' dwellings under the powers of the Artizans' Dwellings Act, has not advanced as rapidly as might have been expected. But much has been done in clearing the way, and in another year substantial progress may be reported. The several societies continue their labours with satisfactory results. The society over which Sir Sidney Waterlow presides has provided for 15,000 persons in its tenements, and reports that it "did not lose a single shilling by the tenants in the last half-year." The Peabody Fund, when the buildings now in course of erection are completed, will have provided dwellings for 2,165 families. Under the Artizans' Dwellings Act, however, a poorer class will, it is hoped, be provided for than these bodies have reached.

3. Churches and Chapels.

Churches and chapels continue to be built as zealously as ever, but the past year has afforded no instance of marked novelty or splendour. All churches are Gothic; most are more or less foreign and eclectic in character, and intensely mediæval in the fittings, especially of the chancel. We shall not this year inflict on the reader a monotonous catalogue of new churches, but content ourselves with mentioning a few that are remarkable from circumstances, place, or style.

Of the London churches the most noteworthy is that of St. Mary Matfellon, Whitechapel, erected on the site of the well-known 17th century parish church, but advanced somewhat farther westward. The church, mainly erected at the cost of Mr. Octavius E. Coope, M.P., is built of red brick and stone, and is a spacious, substantial, and somewhat picturesque edifice. It comprises nave and clerestorey, aisles, apsidal chancel, baptistery at the west end, and at the north-west angle a tower 60 feet high, on which is to be built a spire 140 feet higher. The nave, 109 feet long, 38 feet wide, and 51 feet high to the spring of the roof (80 feet to the ridge), is covered with a wooden barrel-vaulted roof, carried on king-posts which rest on twelve stone corbels, carved with the heads of the Apostles. The chancel is lighted by thirteen lancets, and the walls are to be adorned with paintings in fresco. A novel feature of the exterior is a stone pulpit with a roof, as at Magdalen College,

Oxford, for preaching to an open air congregation. The church, though consecrated, is far from finished. Its ultimate cost is estimated at about 30,000*l*. The architect is Mr. E. C. Lee.

Newington Church, and St. Agnes, Kennington Park, of which we spoke in our last, have been consecrated. St. Agatha, Finsbury, by Mr. H. R. Gough, is an unpretending First Pointed building, with the very questionable recommendation of "a capital set of school-rooms" beneath it. Christ Church, Jamaica Street, Stepney, is another modest brick building, designed by Mr. Ewan Christian. Mr. Pierson's more ambitious church, St. John the Evangelist, Red Lion Square, promises to be shortly completed, and to prove a very creditable work. St. John's, Chelsea, designed by Messrs. Newman and Billing, was consecrated some months since. St. Luke's, Kilburn Park, is a First Pointed brick building, designed by Mr. J. T. Lee.

Among the best of the suburban churches internally is St. Matthew's, Lavender Hill, completed last spring, from the designs of Mr. W. White, F.S.A. Like most of Mr. White's churches, it is red brick, lofty, and of somewhat stern aspect externally. The Church of the Ascension, Lavender Hill, is a brick church, in course of erection, from the designs of Mr. Jas. Brooks. Christ Church, Epsom Common, is a carefully finished Second Pointed structure, of the local rough white flints with Bath stone dressings, designed by Mr. A. W. Blomfield.

The richest and most remarkable of the country churches completed during the year are memorial churches. Holy Trinity Church, Wentworth, was built by Earl Fitzwilliam and other members of the Wentworth family, as a memorial of the late Earl and Countess Fitzwilliam. It is a large Second Pointed cruciform edifice, constructed of the local stones, from the designs of Mr. J. L. Pierson. The interior is rich and effective; nave, aisles, chancel, and porch are paved with marble mosaic, the sacrarium with a more elaborate mosaic of red and green serpentine and choicer marbles; the fittings are all of oak.

More sumptuous is the church of the Holy Angels, Hoar Cross, a little hamlet of Yoxall parish, Staffordshire, erected by the Hon. Mrs. Meynell Ingram, in memory of her husband, the late Hugo Meynell Ingram. The church, built throughout of the red sandstone of the locality, is Second Pointed in style, cruciform, with a massive tower rising from the intersection of the cross, and comprises a short nave with aisles and clerestorey, lofty choir of three bays, chantry chapel, in which is a costly

altar tomb rich in statuary, and bearing an alabaster effigy of Mr. Meynell Ingram by Woolner, sacristies, and porches. The great east window of six lights has a series of statuettes in niches down the interior face of the centre mullion. There is a great deal of sculpture about the chantry chapel, choir, and chancel; the rood-screen is richly carved, and the windows are filled with painted glass. The architects were Messrs. Bodley and Garner. The same architects have erected another costly memorial church, St. Augustine's, Pendlebury, for Mr. E. S. Heywood. It is an early Third Pointed building of brick and stone, plain externally, but very rich inside, especially eastward. A novel feature of the interior is, that instead of nave arcades, and aisles, it has interior buttresses pierced with low arches. A tall rood-screen divides the body of the church from the sacrarium. The chancel has a high altar, lofty and richly decorated reredos, statues of the four Fathers of the Latin Church, and other Catholic insignia. St. James, Farnham, if less costly, is a very graceful First Pointed building, erected by the inhabitants of Farnham and the diocese of Winchester, as a memorial of the late Bishop Sumner, for more than forty years a resident in Farnham Castle. The architect was Mr. H. Woodyer, of Grafham.

St. Thomas, New Hey, near Rochdale, was erected by Messrs. W. and J. Heap, in memory of their father, Thomas Heap. It was designed by Mr. H. Lloyd, of Bristol; is Second Pointed in style, cruciform, with a tower and spire 148 feet high; and cost over 10,000*l.*

Viscount Boyne has built a solid looking late First Pointed church at Burwarton, near Bridgenorth. In the chancel, the architect, Mr. Salvin, has made effective use of the coloured Devonshire marbles. Holy Trinity, Elvington, near York, is a good example of Mr. W. White's special manner. It is built of Bradford stone, with columns of old red sandstone, and Tadcaster stone capitals; has nave, north aisle, and chancel, terminating in a polygonal apse, and tower and wooden spire. St. George's, Millom, by Messrs. Paley and Austen, is a First Pointed building, noteworthy for careful finish and refinement of style. Another good First Pointed church is that of St. George, Redditch, designed by Mr. T. Preedy. Holy Trinity, Dalton-le-Dale, Derbyshire, is a pleasing Second Pointed structure, designed by Mr. R. Fowler. Many more might be named, but it is needless to particularize them.

Restoration, or rather renovation, is being prosecuted as energetically as ever. Every week brings news of another old church having fallen into the hands of the restorer, and of some vestige of ancient ecclesiastical art being swept away or transformed. It is, however, too late to repine, and nothing remains but to save as much as possible of what little is still left untouched. The works at the various cathedrals are proceeding. Rochester is for the present out of the builder's hands, the late works having cost over 11,000*l.*, but much, it is announced, remains to be done. The new nave of Bristol Cathedral, after being delayed owing to the disputes respecting the statuary, has been opened, and figures of the Evangelists are, it is said, to replace the figures of the Saints. For the thorough restoration of the west front of Lichfield Cathedral over 10,000*l.* has already been raised, and Sir Gilbert Scott has commenced the works. Some months back the fall of the south-western tower of Lincoln Cathedral appeared so imminent that an elaborate system of shoring was deemed necessary, and a thorough repair and partial rebuilding will be at once undertaken.

In reference to the decorations of the interior of St. Paul's, for which a sum of 40,000*l.* is in hand, the chief incident is the passing of a resolution by the Executive Committee to "carry into effect as far as possible the wishes of Sir Christopher Wren, by decorating the dome with mosaic, in a similar style to the dome of St. Peter's at Rome;" and the appointment of a subcommittee, consisting of Lord Alwyne Compton, Mr. James Fergusson, Mr. Oldfield, Mr. Parry, and the Rev. St. John Tyrwhitt, to "consider the best method of proceeding in the execution of the proposed scheme, and as to the artists and other persons most fit to be employed therein." Whether such decoration be the most fitting may be open to question, but it is infinitely better than the former hideous scheme, which may now we trust, be regarded as definitely abandoned.

The Roman Catholic and Dissenting churches and chapels we must dismiss with the briefest reference. St. Mary's Church, Warrington, is a costly and richly decorated Gothic edifice, designed by Messrs. Pugin, but like so many Roman Catholic churches, only partially completed. Other churches have been opened at Harborne, Market Harborough, Sutton, West Bromwich, Liverpool, and elsewhere.

4. Municipal and Public Buildings.

The opening of the Manchester Town Hall is a memorable

event, not only in English municipal history, but also in the history of English municipal architecture. It is the noblest structure yet erected for municipal purposes, and in every respect honourable to the public spirit of the town. It must not be regarded, however, as merely a Town Hall, or great assembly room, with its connected offices. The assembly room of the new building, though a splendid one, is not even the largest in Manchester. The building is, in fact, a vast collection of public offices. Besides the magnificent suite of reception rooms and Mayor's apartments, there are no fewer than 250 spacious official rooms in which is transacted the daily business of the Corporation, and this in Manchester, it will be recollected, includes the gas, water, drainage, health, hospitals, education, pauperism, and police, the extensive town improvements, public parks, civic records, and much else.

Constructed on a triangular area of about 8,648 square yards, the building has three principal fronts, each between 300 feet and 400 feet long, the truncated apex towards Cooper Street giving a fourth frontage of over 100 feet. Each of these fronts is highly decorated, but the most elaborate is that facing Albert Square, in the centre of which is the advanced state entrance, and rising above it the great central tower, 38 feet square and 286 feet high, a massive, well proportioned, and very effective feature in the design. Another tower, in Cooper Street, is 185 feet high, and there are two others of smaller dimensions. The building is throughout of brick, cased with carefully selected Yorkshire stone. The style is, speaking roughly, Gothic of the thirteenth century, but the architect demurs to any such designation. It is not, he insists, a mediæval building; "on the contrary, the architecture of the building is essentially nineteenth century, and fitted to the wants of the present day." And in this he is, no doubt, essentially, if not literally, correct. The architecture is mediæval in character, but even in the details there is no servile imitation, and the building, as a whole, is modern in feeling. That present wants have been carefully studied and well provided for seems to be generally admitted. Those who have used it, and large sections have been for some time occupied, are almost unanimous in proclaiming its convenience and comfort, the clearness and simplicity of the general arrangement, the ease of access to the several parts, and their adaptation to their respective purposes.

The Great Hall, a noble room 100 feet long, 50 feet wide, and covered with an open timber roof 58 feet to the apex, occupies

the centre of the building. The business offices mostly look towards the streets, and access is given to them by corridors on each storey, 750 feet long, and lighted from the inner courts. The State Reception Rooms form a magnificent suite, extending for 300 feet along the main floor of the principal front. The Mayor's Rooms vie with them in splendour. These apartments are reached by the State Staircase, which is of noble proportions and great richness. Three or four other public staircases, circular in plan, have considerable architectural character. Novel and effective, too, are the covered bridges, with windows and open timber roofs, which cross the courtyards to the first-floor corridor. Statuary and carving are freely and very skilfully used both on the exterior and interior of the building, and on the fittings and decorations the most profuse liberality has been lavished. The result is a work that does honour to every one who has been concerned in its production. Manchester may well be proud of her Town Hall. We might say of her architect also, for Mr. Waterhouse is the architect of the Assize Courts and of Owen's College, as well as of the Town Hall, and these are the three modern buildings which impart a distinctive character to the architecture of Manchester. Roughly speaking, the Town Hall has cost somewhat over three quarters of a million, or, more exactly, 275,007*l.* for the site and compensation to the tenants, and 476,525*l.* for the building. It is intended, however, to decorate the walls with paintings in fresco, and these, with other contemplated embellishments, will, it is estimated, raise the total cost to about 800,000*l.* Evidently only a large and prosperous city like Manchester could incur such an expenditure, and only a liberal one would do so.

Town Halls have also been erected in several other towns. The Borough Hall, Stafford, is a substantial Gothic structure of brick and stone, designed by Mr. H. Ward, a local architect. St. Helen's Town Hall is a spacious Gothic building, rather quaint than handsome in its general appearance, erected from the designs of Mr. H. Sumner, at a cost of about 30,000*l.* The Town Hall and Municipal Buildings, Kidderminster, designed by Mr. J. T. Meredith, of that town, are extensive and convenient, but, externally at least, have little architectural character. Rhyl Town Hall, designed by Mr. Turner, of Manchester, comprises, besides the Town Hall proper, board offices, and meat, fish, and vegetable markets.

Having described the new Billingsgate Market in former

volumes, it will be enough here to record its formal opening. Large new markets have also been opened at Leeds, erected from the designs of Mr. Morant, the borough engineer, at a cost of 40,000*l.*; at Stockton, at Monmouth, and elsewhere.

New Infirmaries have been completed at Ratcliff for sick children, and in the Fulham Road for adults; at Warrington, and in some other places. An immense building erected at Banstead, the third Middlesex County Lunatic Asylum, and a large but less colossal structure, the Norwich Lunatic Asylum, may be cited as examples of very admirable, and unfortunately much needed, institutions that are rising in various parts of the country, and in their medical and sanitary arrangements are worthy of all commendation.

4. Buildings connected with Education, Art, &c.

At Oxford the chief architectural event of the year has been the completion of the New Buildings and the opening of the new Hall at Balliol, Mr. Waterhouse's most important work in the university city. Last year we described the Hall, and in a previous volume gave an engraving of the New Buildings. It will therefore suffice now to say that, as finished, the Hall fully bears out the expectations formed of it. The works at Christ Church, New College, Keble, the Bodleian, &c., have been steadily carried forward, but there is nothing special to record in connection with them.

At Cambridge, the virtual rebuilding of Pembroke is approaching completion. The hall is finished, and the library, the chief portion remaining, is nearly so. A new hall has been built at Christ's College, and a new set of rooms at Trinity. The additions to St. Catherine's and Downing are completed, and large alterations are proposed at King's. Cavendish College, the Museum, and the Divinity Schools may be reserved for notice on another occasion.

The buildings at Eton College have been extended, and many improvements made during the past year. At Harrow the new Speech Room, described in former volumes, has been opened. Grammar Schools have been built, or rebuilt, at Sutton Valence, Oldham, Wallingford, and one or two other places. At Cowley, some progress has been made with the Oxford Military College, designed by Mr. T. G. Jackson. A handsome new building has been erected on the slopes of Heaton, near Bradford, overlooking

Lister Park, for the Airedale Congregational College. It is early Collegiate Gothic in style, and has cost about 26,000*l*. The architects were Messrs. Lockwood and Mawson. A large and handsome building, designed by Mr. A. Waterhouse, has been erected at Middlesborough at the cost of Mr. J. Whitwell Pease, M.P., and presented to the town as the Middlesborough High School.

The Walker Art Gallery, Liverpool, formally opened by the Earl of Derby on September the 6th, is the splendid gift of the Mayor, Mr. A. B. Walker. The site on which it stands, adjacent to the Museum and the Free Library, was the property of the Corporation, but the cost of the building, upwards of 30,000*l*., was borne entirely by Mr. Walker. The building is classical in character, to accord with the Library and Museum ; the principal feature being a lofty hexastyle Corinthian portico, crowned by a colossal female figure of Liverpool, and flanked by two equally colossal statues of Michel-Angelo and Raphael, all from the chisel of Mr. Warrington Wood, of Rome. The interior appears to be well adapted to its purpose. There are two floors, each comprising four large and well-lighted rooms. The lower floor is devoted to the permanent picture gallery, the upper to the annual autumn exhibition of new paintings and sculpture, and to occasional loan exhibitions. The building was designed by Mr. H. H. Vale and Mr. C. Sherlock, but carried out by the latter, Mr. Vale having died early. Between the Art Gallery and the Library is a spacious circular classic building, the Picton Reading Room, now approaching completion, the whole forming an imposing range of public buildings, devoted to the free use of the citizens.

Mr. T. Brassey, M.P., purposes presenting to the town of Hastings a spacious Gothic building of five floors, which he has had erected from the design of Mr. W. L. Vernon. It bears the title of the Hastings School of Art, but besides the art school it will provide accommodation for a mechanics' institute, and a lecture theatre and committee rooms available for various societies. The Derby School of Art, opened in June last, is a large Gothic building, erected from the designs of Messrs. Waller, of Gloucester. The Winchester School of Art was "gratuitously designed by Counsellor Stophor."

In London, the chief building devoted to art opened this year was the Grosvenor Gallery, New Bond Street, erected by Sir Coutts Lindsay, at a cost, as is said, of considerably over 100,000*l*. The general character and purport of the gallery being described

in the notices of the Picture Exhibitions of the year, it will be enough here to describe the building. The façade is Italian Renaissance in style, but as yet only the lower part is finished. The chief feature is the rich Palladian doorway, with its jasper columns brought from the Church of S. Lucia, at Venice. The building is divided into two floors, the lower containing the great dining room, 96 feet by 35, divided into nave and aisles by sixteen scagliola columns, buffet and offices. The Gallery is on the first floor, and is approached by a handsome staircase and vestibule. The larger room, or West Gallery, is 104 feet by 35, the ends canted, the roof coved, and is a well proportioned and well lighted apartment. The fittings are very sumptuous. The walls are divided into bays by richly gilded fluted pilasters (which formerly did duty in the *foyer de danse* of the old Italian Opera House, Paris), and lined with rich crimson silk damask, whilst round the room are gilt tables and chairs, china and glass. The East Gallery, fitted in much the same style, is 60 feet by 35, and there are smaller rooms for sculpture and water colour paintings. Mr. W. T. Sams was the architect.

6. Street Architecture.

The City of London is being rebuilt, and the larger country towns are in process of renovation. Building is going on everywhere, and warehouses, offices, shops, and factories all seek to attract by architectural style and ornament. In a few years, probably, street architecture will have settled down into some common, if not exactly uniform, style. At present it is no less chaotic than of old. Taking London as an example, the style most prevalent is some kind of Renaissance, but we see also many Gothic buildings, some Elizabethan, as the large inn in Fenchurch Street, and some Queen Anne's, like the newly finished warehouse in Aldersgate Street, and one still more peculiar and piquant, as yet unfinished, in the Farringdon Road. The newest City buildings show clearly that the architect has now more than ever to provide for the greatest possible utilization of space, display in the shops, and abundant light in offices, warehouses, and upper storeys. As architectural effect is also required, a more picturesque fenestration is aimed at and sometimes secured. So again, architects are, by way of variety, breaking and varying the sky-lines of their street buildings, sometimes with excellent effect. The Northumberland Avenue, and the other important

new streets planned by the Metropolitan Board of Works, will afford scope for much effective, and some grandiose, street architecture.

We can but glance at a few of the new City buildings—every street and lane contains some. Queen Victoria Street now shows few vacant spaces or unfinished buildings, and though its diversity would horrify a Parisian street improver, it may be questioned whether its somewhat bizarre discords are not better than the pompous monotony of our neighbours. Holborn Viaduct has also its main line pretty nearly occupied, very largely owing to the enterprise of the Holborn Viaduct Building Company, who are said to have expended over a million on the sites and buildings. The architectural influence is extending fast into Holborn where, as though to rival Meeking's great house on the south side of the way, an enormous pile is rising on the north, at the corner of Brooke Street, and stretching 200 feet down it. It is being constructed for the Prudential Assurance Company, from the designs of Mr. Alfred Waterhouse, and promises to be one of the most remarkable buildings of its class in London. Of red brick, Mr. Waterhouse has been been led by his experience with the Natural History Museum to employ terra cotta very freely in the ornamentation, especially in the Brooke Street façade; in the Holborn front there will be a good deal of polished granite.

At the corner of Threadneedle Street and Bishopsgate, on the site of the demolished church of St. Martin Outwich, a large and showy pile has been erected for the Hampshire Banking Company; as on the site of St. Antholin's Church a great stack of offices has been built. The City Liberal Club, Walbrook, approaches completion, but shows to little advantage in that narrow thoroughfare. In the Poultry and Cornhill, in Mark Lane, Billiter Street, the neighbourhood of London Wall, Love Lane, Wood Street, and the vicinity, the builder has been and is very busy. West of St. Paul's, about Dorset Street, by New Street Square, Chancery Lane, and Lincoln's Inn, and so on to Covent Garden, many buildings of large size and considerable architectural pretensions have been lately finished or are now in progress. In Northumberland Avenue the ambitious Northumberland Mansions and Hotel, the offices of the Society for Promoting Christian Knowledge, and others of like magnitude, are already begun or planned. But our limits preclude the possibility of particularizing any of them. For the same reason we must

leave the buildings in the streets farther west wholly untouched, and only refer in these general terms to the activity displayed in our larger country towns in respect of new clubs, banks, shops, and offices, as well as of municipal and public buildings.

7. Docks and Bridges.

On the Thames very large and costly, and, in an engineering point of view, very interesting extensions of the Victoria Docks, and at Limehouse a new dock for the North London Railway, are making steady progress. The North London Railway Company's Dock adjoins the Collier Dock, with which it will be connected by a short canal, and is close to the West India Dock. It will have a water area of 2¼ acres; an average depth of water of about 18 feet, and a wharf frontage of 1,650 feet. Around it will be warehouses and sheds of great capacity, which are to be respectively appropriated to the North Western, the Great Northern, and the Great Western Railway Companies. Lines of railway, in all some 12 miles in extent, will connect the wharves and warehouses with each other, and with the North London Railway. Stationary steam-engines and the most approved hydraulic machinery and apparatus will be provided for working the cranes, capstans, and lifts around the docks and in the warehouses. The total cost is estimated at somewhat under 300,000*l*. The works were designed by, and are being carried out under the superintendence of, Mr. T. Matthews, the company's engineer.

The Avonmouth Dock, Bristol, spoken of in previous years, has been completed at a cost of over 600,000*l*., and bids fair to realize all the anticipations of its promoters. It provides a water area of 16 acres, is 1,400 feet long, 500 wide, and has a minimum depth of 26 feet. The engineer was Mr. W. J. Brunlees, C.E. A spacious dock has been completed at Fleetwood in connection with the Lancashire and Yorkshire Railway. It has an area of 10 acres, is 1,000 feet long, 400 wide, and has a maximum depth of 34 feet. New docks have also been completed at Whitehaven and elsewhere.

Piers have been constructed at Blackpool, at Llandudno, &c., and pier extensions, improvements, and alterations have been or are being made at Southend, Eastbourne, and other seaside resorts.

Apart from railway bridges and viaducts, no very important

bridges have been completed. A bridge of greater width and easier gradient has replaced the old bridge over the Grand Junction Canal in the Hampstead Road, and another has been commenced by the Gloucester Gate, Regent's Park, and two or three are recorded in the country, but none likely to rank high in the annals of bridge building.

SCIENCE OF THE YEAR 1876-1877.

In recording the progress of Physical Science during the year which is now drawing to a close it must suffice to draw attention to the more prominent facts that have occurred—to the most remarkable inventions and discoveries that have been made in that period. In selecting those of which to give an account, we must be guided to a very great extent by the limited space that can be devoted to this article, and must run the risk of excluding a large number of those which, when more fully developed and followed up, may prove to be of the highest practical advantage and importance. Very many discoveries, though they may ultimately largely influence the advance of scientific knowledge, though they may lead to the foundation of new theories, or to the modification of old ones, will in their first state have but little interest for those who are not conversant with the higher branches of science. From both these considerations, therefore, in the following pages only those occurrences in the world of science will be noticed which have a practical interest for the general public.

Astronomy.

Some excitement was caused among astronomers in the early part of the year by the anticipated confirmation of the existence of a planet revolving in an orbit within that of Mercury, at present the nearest known planet to the sun. The late M. Le Verrier, had in the autumn of last year called attention to a perturbation in the motion of the planet Mercury, which could not be explained by any known causes, and had suggested the possibility of its being due to the proximity of a planet or planets interior to the orbit of Mercury. In the pre-

vious April, M. Weber had observed a round black spot just within the sun's eastern limb which had disappeared the next day. From calculations of the elements founded on this as well as on the observations mentioned below of a similar phenomenon, which were believed to refer to the same body, Le Verrier had cause to expect that if such a planet were in existence, it would pass across the sun's disc on the 2nd or 3rd of October of last year. Subsequent investigations, however, led to the suspicion that Weber had seen only an ordinary sun-spot without any penumbra, and early in this year Le Verrier addressed a circular to astronomers suggesting close and frequent examinations of the sun's disc on the 21st, 22nd, and 23rd March. This date was founded upon observations which he assumed to be those of a small planet in transit, to which already the name had been given of Vulcan. The six observations above referred to are those of Fritsch, at Quedlinburg, 10th October, 1820; Stark, at Augsburg, 9th October, 1819; Decuppis, at Rome, 2nd October, 1839; Sidebotham, at Manchester, 12th March, 1849; Lescarbault, at Orgères, 26th March, 1859; and Lummis, at Manchester, 20th March, 1862. Though doubt has been expressed by some astronomers as to the trustworthiness of one or two of these observations, there was sufficient coincidence in the elements obtained from them to fully justify the expectation of the illustrious Frenchman. However, neither in October of last year, nor in March of this, was any body answering the description of the expected planet seen to pass across the sun, and as eight or nine years must elapse before another transit can take place, the existence of an intra-Mercurial planet must remain, at least until that time has passed, a matter of speculation only.

The number of new planetoids discovered this year is not so large as in the preceding twelve months. Between October, 1875, and September, 1876, Mr. Lynn, in his article on "Planetary Discovery and Research," in last year's "Companion," records the discovery of twenty of these heavenly bodies. Since then, the following minor planets have been announced:—No. 170, on the 10th January, 1877, by Professor Peters, of Clinton, in the United States of America; No. 171, on the 13th January, No. 172, on the 5th February, and No. 173, on the 2nd August, all by M. Borelly, at Marseilles; No. 174, on the 8th August, by Professor Watson, of Ann Arbour Observatory, Michigan; No. 175, on the 3rd September, also by Mr. Watson. The planets Nos. 162 and 169 on the list of last year have been named by

their discoverer, M. Prosper Henry, *Laurentia* and *Zelia* respectively; Nos. 171 and 172 are called by M. Borelly, *Ophelia* and *Baucis*. No names have as yet been given to the others.

The planet Mars is, in the month of September of this year, in opposition to the sun; he is also nearer to the earth than he has ever been since the year 1845. Such a favourable opportunity for the observation of the planet, with the improved instruments of the present day, has not been neglected by astronomers, one of the first fruits being the discovery of two satellites of what has always been considered to be "moonless Mars." This most important discovery was made by Professor Asaph Hall, of the United States Naval Observatory at Washington, with the magnificent refractor constructed for that institution by Messrs. Alvan Clark and Sons, of Cambridgeport, Massachusetts. The credit of the discovery, which has been classed as the third important telescopic discovery of the century (the first being that of the asteroid group in 1801, and the second that of the planet Neptune by Adams and Le Verrier in 1846), belongs, therefore, entirely to the United States. The outer satellite was first observed on the 11th August, but its true character was not recognised until the 16th; on the following night, Professor Hall detected the second moon. The existence of the outer satellite was confirmed by Messrs. Clark, who observed it with the 26-inch telescope which they have made, but not yet mounted, for Mr. McCormick, and by Professor Pickering, of Cambridge, Massachusetts. In Europe it was seen by M. M. Henry, at the Paris Observatory, on the 27th August, and eight days afterwards by Dr. Wentworth Erck, with an object-glass of 7½-inch aperture, at Bray, in county Wicklow; Mr. A. A. Common has also seen the outer satellite on several nights at Ealing, by means of an 18-inch reflector. The inner satellite has as yet been observed only by Professor Hall, though no doubt is entertained of its existence. Professor Newcomb, writing to the *New York Tribune* on the 22nd August, remarks that the newly discovered moons of Mars may be considered as by far the smallest heavenly bodies yet known. From the calculations which have been made, it would appear that the diameter of the outer one cannot be much more than ten miles, and may be less; taking that quantity, the entire surface would be about 314 square miles, which is not much greater than the county of Middlesex.

Advantage has also been taken of the proximity of Mars to solve an astronomical problem of the very highest importance, the determination of the parallax of the sun; for this we are indebted to the enterprise of Mr. Gill, who has undertaken an expedition to the tropics for the purpose. Sir George Airey, the Astronomer Royal, had some time ago pointed out that the present circumstances of Mars would present a favourable opportunity for determining the sun's distance from the earth by means of observations of the planet by a single observer, and with a suitable instrument, at a station near the equator. Thus without the labour and expense which must be incurred by many expeditions (as was necessary for the observations of a transit of Venus), the sun's parallax could be determined with considerable accuracy. Both from geographical and climatic considerations, the island of Ascension was selected as the most suitable station for the proposed observations, and the Royal Astronomical Society having made a grant of 500*l.* in aid of the cost of the undertaking, and Lord Lindsay having consented to lend the heliometer which he had used in his observations of the transit of Venus in 1874, at Mauritius, Mr. Gill, who was familiar with that instrument, volunteered to lead the expedition. Of course the results cannot be known in time to be recorded here.

Two periodical comets, named after their discoverers, D'Arrest and De Vico, were to be looked for in the course of this year. D'Arrest's comet was first seen by Professor D'Arrest at Leipzig on the 27th June, 1851, and was observed by him continuously to the month of October in that year; he was able, therefore, to determine the ellipticity of the orbit, and to predict that it would reappear in our system in about six years. Accordingly it was next observed in 1857 at the Cape of Good Hope. In 1864 it was not seen, and when again observed in 1870 it had undergone some considerable perturbation (probably from proximity to the planet Jupiter), by which its period had been lengthened some sixty days. It was last seen as a very faint object in December, 1870, by Professor Julius Schmidt at Athens. This year it was first noticed by M. Coggia on the 8th July at Marseilles, and next at Florence, by M. Tempel, on the 10th. De Vico's comet has not yet been detected, and probably will not be now seen during this year. Of new comets there have been already four discovered; No. I was first observed by M. Borelly, at Marseilles, on the 9th February, and on the following night by Herr Pechüle, at Copenhagen. On the

16th it could be seen with the naked eye, and on the 15th Padre Secchi, at Rome, obtained its spectrum. Comet No. II was discovered by Professor Winnecke, at Strassburg, on the 6th April. In May it formed a fine telescopic object with its broad fan-shaped tail. Its spectrum was observed by M. Wolff, at Paris, on the 11th April. That indefatigable observer, M. Borelly, may be credited also with the discovery of No. III, though it was really first detected by Mr. Lewis Swift, of Rochester, near New York, on the 11th April. The telegram from Marseilles announcing its position was received in England on the morning of the 16th April, and corroborated by an observation the same night at Mr. Barclay's observatory, Leyton. Lord Lindsay, at a meeting of the Royal Astronomical Society, on the 11th May, gave an account of the spectra of the two comets, II and III, which had been observed at Dunecht. Both gave bright bands, showing the existence in them of glowing vapour, but the spectra were entirely distinct. On the 14th September, M. Coggia, at Marseilles, observed comet No. IV; he describes it as having a central condensation, with some trace of a tail. It was subsequently seen by Professor Bruhns, at Leipzig, on the 17th, and by Professor Winnecke, at Strassburg, on the 18th.

Of eclipses in the year 1877, only two possessed general interest. The first took place on the 27th February, the other on the 23rd August. Both were total eclipses of the moon, and were visible at Greenwich. They were remarkably similar as regards duration of totality, as well as in the extent of immersion of the moon's disc in the earth's shadow. In each case the face of the moon during the total phase had the well known dull copper-red colour, due to its being partially illuminated by the light of the sun, which has been bent on to it by passing through the earth's atmosphere, and has had all but these peculiar red rays absorbed in the denser and more moisture-laden strata of our air.

Any account of the astronomical discovery of the year would be incomplete without a notice of a new star which suddenly blazed out* last November in the constellation Cygnus. At the time of its discovery on the 24th November, 1876, at Athens, by

* In a letter to "Nature," dated the 10th September, Mr. Norman Lockyer, F.R.S., maintains the inaccuracy of such an expression. He points out that not only the phenomena of the spectrum above described, but also the rapidity with which the new star in Cygnus decreased in brilliancy, completely overthrow the theory of the sudden incandescence of a large heavenly body. They will be found rather to satisfy the conditions under which exist those small meteoric masses which, as increasing evidence shows, occupy all the realms of space.

Professor Schmidt (it was certainly not to be seen on the previous 20th November, the last evening clear enough for observation), it is described as being of the third magnitude, and of a yellow inclining to orange colour. It seems to have remained at its maximum till the 1st December, and then to have rapidly decreased in brilliancy; on the 2nd of December it was of the fourth magnitude, and two days later of the fifth; on the 15th December it ceased to be visible to the naked eye. Notwithstanding the very unfavourable weather which prevailed during its appearance, the spectrum of the star was obtained by several observers in different parts of Europe, who for the most part agree in describing it as consisting of the bright hydrogen lines superposed on a faint coloured band. In this it did not differ from the similar star in the Northern Crown, whose spectrum had been observed in 1866; but while in that case as the star decreased in brilliancy the hydrogen lines had gradually faded, leaving only the ordinary stellar spectrum, in the star Nova Cygni, the rainbow tinted spectrum disappeared, and the bright hydrogen lines alone were left. For some unexplained reason, the star was not observed from the end of March to the beginning of September, and when at the later date Lord Lindsay's 15-inch refractor at Dunecht was turned on it a very remarkable change was seen to have occurred. The star was still shining in the same place, but with a faint blue colour, quite different from the bright orange tinted star of last November. Its spectrum, too, at this last examination, showed only one bright line, corresponding accurately with that of the faintest gaseous nebulæ. In the words of Lord Lindsay, with which he communicated this interesting discovery to the *Times*, "There is little doubt but that this star has changed into a small planetary nebula."

While the materials for this article were being collected the news of a most important discovery in solar physics arrived in England. In a paper read before the American Philosophical Society on the 20th July, 1877, Professor Henry Draper, M.D., announced the existence of oxygen and nitrogen in the sun. Hydrogen, sodium, iron, copper, zinc, aluminium, magnesium, barium, and several other metallic elements were known to be present in a state of vapour in the sun's atmosphere. Their presence is proved by a number of dark lines, a special set of which corresponds to each of the metals above mentioned, crossing the solar spectrum, showing that they exist in the solar

atmosphere in a state comparatively cooler than that of the bright nucleus. It remained for Dr. Draper to show by comparison of the spectrum of solar light with that of the electric spark in common air, that the presence of oxygen and nitrogen in the sun is revealed by the lines characteristic of those two bodies, though by bright instead of dark lines. As he points out, the same method may be available for the detection of sulphur, phosphorus, chlorine, and other non-metallic elements which have not yet been found in the sun.

Geography.

The year 1876 is memorable for the return to our shores of two expeditions which had been sent out at the expense of the British Government; the first of these is the Marine Surveying Expedition in H. M. ship *Challenger*, the other the North Polar Expedition in H. M. ships *Alert* and *Discovery*. Though the work of the former scarcely comes under the head of the Science of the present year, its results are so material, its discoveries (though the numerous collections brought home have not yet been worked out) so important, that some account of the expedition may not be out of place. The principal object of the cruise of the *Challenger* was to determine, as far as possible, the physical and biological conditions of the great ocean basins, the Atlantic, Pacific, and Southern Sea. It was a consequence and an extension of the work done for the Royal Society in the previous expeditions of the Gunboats *Lightning* and *Porcupine*, under the superintendence of Dr. Carpenter, F.R.S., Mr. Gwyn Jeffreys, F.R.S., and Professor Wyville Thomson, F.R.S. The present expedition was entirely a Government one, the naval surveying staff being under Captain (now Sir George) Nares, F.R.S., and the civilian staff of naturalists and chemists under Mr. (now Sir Wyville) Thomson. The *Challenger* left England on the 21st September, 1872; visiting Teneriffe by way of Lisbon, she crossed the Atlantic to Sombrero, one of the Virgin Islands, thence to St. Thomas in the West Indies, and Bermuda. From Bermuda she sailed back across the Atlantic to the Azores and Madeira, and coasting the West Coast of Africa as far as Cape Palmas, turned her head once more to the westward, and reached Bahia, in Brazil, after nearly a twelvemonth's absence from home. Crossing the Atlantic for the fourth time to the Cape of Good Hope, the expedition next sailed in a south-easterly

direction to Kerguelen Island, and as far as the Antarctic circle, the new year of 1874 being passed in the stormy latitudes of the Southern Sea. Next Australia was visited, and the bed of the sea between that continent and New Zealand surveyed for ocean-telegraph purposes. The rest of the year was passed cruising among the islands of the Eastern Archipelago, where the frequent dredgings brought up from great depths a multitude of rare and new forms of animal life. Christmas was spent at Hong Kong, and thence Captain Nares was recalled to England to take charge of the North Polar Expedition, his place being taken by Captain F. T. Thomson, of the *Modeste*, then on the China station. Early in 1875 the *Challenger* returned to New Guinea, and thence back again to Japan. From Japan she sailed for a cruise in the Pacific, visiting the Sandwich Islands and Otaheite, and thence, by way of Juan Fernandez, to Valparaiso, on the west coast of South America. The new year of 1876 was spent on the voyage from Valparaiso, through the Straits of Magellan, to the Falkland Islands. Monte Video was next visited, and thence the Atlantic was crossed for the fifth and last time by way of Ascension and the Cape de Verd Islands, thus completing the circumnavigation of the globe. On the 27th May, 1876, the *Challenger* dropped her anchor finally at Sheerness. The importance of the expedition it would be impossible to overrate, and many are the communications from foreign savants to Sir Wyville Thomson congratulating him on the accomplishment of his arduous enterprise, and acknowledging the great services which the expedition has rendered to science. Altogether the *Challenger* sailed 69,000 miles, and established 362 observing stations. As far as possible, at each of these stations, observations were taken of the depth and bottom temperature, and, when practicable, serial observations of the intermediate temperatures; specimens of the bottom water and ground were secured by the sounding line, and the dredge was used for obtaining samples of the fauna at great depths. Off the coast of Japan a sounding was taken in 4,575 fathoms of water, the greatest depth observed on the voyage. Only one death occurred, that of Dr. v. Willemöes-Suhm, one of the naturalists of the expedition. The collections have now been distributed, to be worked out among the most eminent English and foreign naturalists.

While the sheets of last year's "Companion" were passing through the press the country was startled by the news that the Arctic Expedition had returned home. The

word startled is used advisedly; the popular impression, that the sole object of the enterprise was to reach the Pole, naturally led to the conclusion that at least two years would be required to accomplish the design. The season, too, was so far advanced that, even among scientific men, the opinion prevailed that the ships would pass another winter in the ice. The ships *Alert* and *Discovery*, under Captains Nares and Stephenson, left England in May, 1875. That our readers may understand the objects for which they were sent out, the nature of the work entrusted to these officers must be briefly described. Of all the routes which lead to the great polar basin the one which seemed most practicable was that through Smith's Sound, a channel running northward between Greenland on the east, and a tract of land, which has received the name of Grinnell Land, on the west. In 1871, Captain Hall, in the U.S. ship *Polaris*, had sailed up this channel for 700 miles without obstruction of any sort, and from his furthest north in latitude 82° 16′, saw open water all round him; this he reported, from the peculiar atmospheric appearance which is familiar to polar navigators, must have extended two or three degrees further north. If this condition of the North Polar Sea were permanent, it was hoped that our Arctic explorers of 1875 would be able to push their ships on to a point only a few degrees short of the Pole, and that then the Pole itself might be reached on sledges. At the same time, it cannot be too strongly insisted on, that to make the Pole was not the sole, or even the main, aim of the enterprise. Briefly stated, the instructions to Sir George Nares were:* "Reach the Pole if you can, but, at any rate, in the light of the latest scientific knowledge, make all possible observations on the multifarious phenomena which can be seen to advantage alone in the Arctic regions." It is needless to add that these instructions have been carried out with success, though at the cost of intense suffering to the crews of the two ships, and not without some loss of life. The *Discovery* went into winter quarters at a point inside and on the north side of Lady Franklin Sound, in latitude 81° 44′ N.; the *Alert*, pushing onward, rounded the north-east point of Grant Land (a continuation apparently of Grinnell Land), and found herself on the border of what was evidently an extensive sea, of which the coast trended rapidly to the west, instead of, as was universally expected, leading in a line 100 miles or more northwards, continuous with

* "Nature," vol. xv., p. 3.

the western shore of Robeson Channel, as the northern half of Smith's Sound is called. When, therefore, the *Alert* was housed for the winter of 1875–1876 at this point, in lat. 82° 27′ N., the problem of reaching the Pole had presented itself under a different aspect. Meanwhile, the severe season which followed was not allowed to be passed idly. Observations of all kinds, meteorological and magnetical, were carried on by the officers of the two ships, as well as the difficult circumstances in which they were placed would permit; preparations were made for pushing the geographical explorations on the return of the milder season. Some idea may be formed of the magnitude of the difficulties under which this work was carried on, when it is remembered that for 142 days the explorers were without the light of the sun. The cold was the most intense ever experienced; the mean temperature for 13 consecutive days was — 63° Fahr., which means 95 degrees of frost, and on one occasion the thermometer registered a frost of 104°. Notwithstanding, an unprecedentedly rich collection of observations in all departments has been obtained; only of living animals was the number found less than was anticipated. With the reappearance of the sun commenced the explorations of the sledging parties. Though on the borders of a frozen sea, without a sign of the open water prognosticated by the *Polaris* explorers, Captain Markham and Lieutenant Parr, in command of a sledge party, made determined efforts to push northwards. Owing to the extraordinary nature of the pressed up ice, however—ice to which, from its apparent accumulation for years, if not centuries, they gave the name of the "Palæocrystic Sea"—they could only advance 72 miles from the ship. Over this ice a roadway was made by pickaxes, before a sledge, with even a light load, could be pulled on; the sledge-loads were therefore sent forward in instalments, and thus the same road had to be traversed several times before any real advance could be made; in this way the actual progress did not exceed an average of 1¼ miles daily. With almost superhuman effort, however, this gallant band succeeded in planting the British flag in lat. 83° 20′ 26″ N., about 400 miles from the Pole, and 35′ nearer to it than Sir Edward Parry had reached in 1827. The practical conclusion therefore to be drawn from the results of this expedition, which has advanced further towards the Pole than any previous one, is that in this quarter at least a northward progress must be impracticable. Baron von Wrangell's opinion, that to reach the

North Pole it is first necessary to discover a continuous coast-line leading towards it, has been thoroughly corroborated. Besides Capt. Markham's, however, other sledging parties started to investigate the topography of the shores of the Polar Sea. Lieut. Aldrich conducted a party along the coast to the westward to a point 220 miles from the *Alert's* winter quarters; the most northern land was found to be in lat. 82° 10′ N., and was named Cape Columbia. The coast of Greenland was explored by a sledge party from the *Discovery*, under the command of Lieutenants Beaumont and Rawson; they reached a point in lat. 82° 50′ N., long. 48° 30′ W., where the coast-line appeared to be trending S.E., thus giving cause for believing that Greenland may be an island. Lieut. Archer, with another party from the *Discovery*, explored Lady Franklin Sound, which he found to be a deep inlet terminated to the westward by lofty mountains and glacier-filled valleys. Lieut. Fulford and Dr. Coppinger penetrated some distance into Petermann Fiord, but found it to be blocked by packed ice from shore to shore. Unfortunately all the sledging parties were attacked with scurvy, which broke out with frightful severity, and rendered the return to the ships extremely difficult; three of the men died of this dreaded disorder, and one death—that of Petersen, the interpreter of the expedition—was the result of frost-bite. Under these circumstances Capt. Nares determined to return home as soon as a favourable opportunity presented itself, rightly judging that another year's stay in this injurious climate would only risk the valuable lives of his men, already enfeebled by disease, without adding to the scientific results of the expedition. With patience and skill the ships were extricated from the ice with which they had been so long surrounded, and both arrived safely in Queenstown Harbour on the 29th October of last year. The British Arctic Expedition will ever be memorable, not only for the services it has rendered to science, but as a renewed instance of the pluck and endurance of our seamen.

From "Greenland's icy mountains" to "Afric's sunny fountains" is indeed a change, yet it is to the latter region of the earth that our attention must be called in describing another geographical discovery of interest and importance. On the 26th and 29th of March last, the *Daily Telegraph* published two letters bearing date Ujiji, August 7th and 13th, 1876, from the special commissioner of that paper, Mr. Stanley. Mr. Stanley has been able to make a complete survey of Lake Tanganyika,

and declares that he has settled the question of its outlet. According to his view the Lukuga, which Cameron supposed to flow out of the lake, whence it conveyed the water to the Lualaba, and then by way of the Congo to the Atlantic, is only a creek the surface current of which is due to the wind. A still more extraordinary result, however, of Stanley's examination of the lake and of the Lukuga is, that the latter has risen several feet since Cameron's observations, and that it is still rising; though therefore not yet an outlet of Tanganyika, it will become so in a few years when the water has risen above the level of the swampy ground which now intervenes between the head of the Lukuga creek and the Luindi river, the latter flowing into the Kamolondo and thence to the Lualaba. To complete this theory, Stanley believes that Lake Tanganyika is a huge rift in what was a level table-land of this part of Africa, formed by a comparatively recent volcanic convulsion and since gradually filled with water; the process of filling is still going on, and as yet there is no outlet—only when it is quite full will the lake discharge its water by the channel above described. In the spring of last year, Stanley had explored the River Kitangule, which empties itself into the Victoria Nyanza, and forms the main affluent of that lake on the west. He traced it out of another large lake, the Akenyara* (or, as he has renamed it, Lake Alexandra), thus bringing the source of this portion of the Nile basin not far from the northern end of Tanganyika. The high ground to the north and east of that lake therefore will be the northern end of the great watershed between the river system of the Nile flowing northward, and that of what Cameron believes to be the Congo flowing westward.†

Chemistry.

The chemical discoveries of the year possessing general interest are not very numerous, and are chiefly those of new elementary bodies. *Gallium*, the new metal discovered in zinc-

* The Kitangule had previously been visited by Speke when he discovered the Victoria Nyanza; and the Akenyara Lake is also mentioned in his map of the district.

† At the time that this paper is in the hands of the printer, intelligence has been received from Mr. Stanley of his having arrived safely at Embema, near the mouth of the Congo. He has succeeded in tracing the course of the great river Lualaba from Nyangwé, where Cameron left it, down to the place where, under the name of Zaire, Kwango, or Congo, it falls into the Atlantic. He has thus proved the correctness of the conjecture that the Lualaba and Congo are the same river, and has solved the last of the greater problems of African geography.

blende last year by M. Lecoq Boisbaudran, has now had its properties more fully investigated by its discoverer. When fused it has a silver lustre, but on solidifying has a bluish tinge and loses brilliancy; it melts at 30°·15 C. (86° F.), and therefore liquefies when held in the hand. In its solid state it is hard and resistant, but can be cut with a knife. Its crystalline form is octahedral, and when melted it adheres easily to glass, giving a beautiful mirror.

Some thirty years ago, R. Herrmann discovered a new metal belonging to the tantalum and niobium group, to which he gave the name of *Ilmenium* from its occurring in the mineral ilmenite, but the later researches of Marignac induced most chemists to deny to ilmenium the right of being considered a distinct element. In last February's number of Kolbe's *Journal für praktische Chemie*, Herrmann not only re-asserts the distinct individuality of the above-named metal, but announces the discovery of another one closely allied to it and belonging to the same group. This new metal he has named *Neptunium*. It was found in a specimen of the mineral tantalite from Haddam, Connecticut, but is known only from its compounds, as Herrmann had not a sufficient quantity of the mineral to separate it in its elementary form.

M. Sergius Kern, of St. Petersburg, has discovered a new metal, which he has named *Davyum*, after our own celebrated chemist, Sir Humphrey Davy. It was found by him in the residue after separating rhodium and iridium from some platinum ores; it belongs to the platinum series of metals, and is placed by its discoverer between ruthenium and molybdenum in that series. He describes it as a hard silvery metal, slightly ductile.

In a paper read before the Society of Arts, on the 14th February last, Professor Barff describes an invention of his own, which, if it can be applied on a large scale so as to be commercially successful, will be of great importance in the manufacture of such articles of iron for general use as are exposed to the ravages of rust. Rust, as is generally known, is a compound of oxygen and iron containing twice 56 parts by weight of the latter element, and three times 16 parts of the former; it is called the ferric oxide of iron. If a piece of dry bright iron be exposed for any length of time in perfectly dry air no change will take place, but should the slightest moisture come in contact with it it begins to rust at once. As soon as the iron becomes moistened the ferrous oxide (consisting of 56 parts by weight of iron, and

16 parts of oxygen) is formed upon its surface, and this, taking more oxygen from the air, becomes converted into the ferric oxide or rust. Then the rust nearest to the metal taking up some of the iron is reduced again to the ferrous oxide, to be in turn converted into the ferric oxide, and in this way gradually the whole of the piece of iron is changed into ferric oxide, or, in other words, is eaten away by rust. But there is another compound of oxygen with the metal, the black oxide, as it is called, containing three times 56 parts by weight of iron, and four times 16 parts of oxygen ; if this oxide can be induced to form on the piece of iron, it not only adheres to it permanently, but effectively protects it from any further change. Professor Barff's invention consists in creating this oxide on the surface of iron plates, or any other articles of that metal, by exposing them in a suitable chamber to superheated steam—500° Fahr. is stated to be generally sufficient, though the exact temperature must probably vary with the nature of the article. Iron treated in this way is also said to be much harder than it was before, and to be capable of resisting rubbing with emery cloth, or steel wire cloth, which will rapidly scratch and wear away common iron. It is evident that this process, if it can be successfully applied, must greatly increase the enduring properties of any articles of general use commonly made of iron ; such will be architectural mouldings and railings which are exposed to the action of the weather, iron boilers, water pipes, saucepans, and all utensils which have to resist the action of water.

Geology.

English geologists have lately been watching with the deepest interest the progress of the boring for water on the premises of Messrs. Meux and Co., of the Horseshoe Brewery, Tottenham Court Road, as calculated to throw light on one of the great questions of modern geology. This problem, briefly stated, is: Do the coal measures exist immediately below the cretaceous rocks of the south-east of England ? A similar problem, substituting *Jurassic* for *Cretaceous*, it was endeavoured to solve two years ago by what is called the Sub-Wealden Boring, an enterprise which for want of funds was unfortunately left unfinished. In 1855 the eminent geologist, Mr. Godwin-Austen, F.R.S., reasoning from the sequence of the strata in Westphalia, Belgium, and the North of France, had come to the remarkable conclusion that

a ridge of the older rocks extends below the chalk along the line of the Thames Valley, and connects the coalfields of Bath and Bristol with those of the Pas-de-Calais and Belgium. About the same time the Hampstead and Highgate Waterworks Company sunk a boring at Kentish Town, which, after passing through the usual strata, the London clay and sands of the Lower Tertiaries, the Chalk, Upper Greensand, Gault, and Lower Greensand of the Cretaceous system, came, at a depth of 1,302 feet, upon a series of red clays and grey sandstones quite unlike any of the *Neocomian* strata. Two years afterwards Godwin-Austen's supposition was again confirmed by a boring at Harwich, where, at a depth of 1,200 feet immediately below the Gault, a deposit of black slaty rocks was met with, presenting decidedly palæozoic appearance. The brewery of Messrs. Meux has hitherto been supplied with water from a well sunk to a depth of 365 feet into the chalk. As is commonly the case in this rock the supply of water was always uncertain, and on its showing signs of giving out the proprietors determined to bore into the sands below. The work was undertaken by the Diamond Rock Boring Co., who use a boring tool which cuts out and brings up solid cores of the rock passed through, thus affording an opportunity of detecting the nature and sequence of the strata. At the depth of 812 feet the chalk ended, and the Upper Greensand was reached, followed at 840 feet by the Gault clay to a depth of nearly 1,000 feet. When the borer had sunk 1,001 feet the Lower Greensand was met with, and as a limited supply of water was obtained great hopes were entertained that the immediate object of the undertaking had been realised. On the 1st May last, however, the character of the strata entirely changed; the horizontal beds gave place to purple and green shales, dipping at an angle of 30°, and on the 12th May the cores brought up contained fossils which Mr. R. Etheridge, F.R.S., had no hesitation in pronouncing to be characteristic of the Devonian formation. It thus appears that below this part of the metropolis the whole series of the Oolites and Lias are entirely wanting, and that the cretaceous beds rest unconformably on palæozoic rocks of the Devonian age. The results agree perfectly with those of the Kentish Town and Harwich borings, and confirm in a striking manner Mr. Godwin-Austen's conclusions. In a paper read before the Geological Section of the British Association, at the Plymouth meeting, last August, Mr. Godwin-Austen discussed further the general results of the Tottenham Court Road boring. He infers that as in Belgium

and France, the palæozoic rocks underneath this part of England form a trough the axis of which runs east and west ; that Messrs. Meux's brewery stands upon the north side of this trough where the Devonian rocks exposed their edges. As the whole of this part of Europe formed part of the area over which the Devonian series preceded or was overlaid by the true carboniferous series, and that where one occurs the other always follows, it results that London has been built on the edge of a large coal-field, which lies probably to the north of it.

Another discovery in the geology of England was announced by Dr. H. Hicks, in a communication which he read at the meeting of the Geological Society on the 22nd November of last year. Since the researches of Sedgwick, and up to the present time, the Cambrian rocks have been considered by geologists to be the oldest sedimentary rocks in England. In the paper above mentioned, Dr. Hicks gives reasons for believing that a ridge of rocks running down the St. David's promontory, and mapped by the Geological Survey as intrusive syenite and felstone, consists in reality of sedimentary rocks of pre-Cambrian age. His investigations lead him to the conclusion that the main ridge is composed of two distinct and entirely unconformable formations, for the lower of which he proposes the name of *Dimetian*, from the name of an old Welsh kingdom, for the upper the name of *Pebidian*, from the name of the hundred. The author also indicated the points of resemblance between these rocks and the Laurentian of Canada, as well as the pre-Cambrian rocks of Sir R. Murchison in Scotland, but did not venture at present to attempt any definite correlation of them.

Physics.

One of the subjects which excited most general attention at the late meeting of the British Association was that of the Telephone, that is the instrument by which sounds, whether merely musical or distinctly articulate can be conveyed from one place to another, and in this way audible signals be exchanged between distant stations, the same as is now done by sight, or graphically by means of the electric telegraph.* In the year 1837 an American physicist, named Page, observed that when an iron bar was magnetised or demagnetised a sound was

* The following account of the invention of the telephone is an abstract of a paper read by Mr. W. H. Preece to a large audience in Section A of the British Association, at the Plymouth meeting last August.

produced, and that by rapidly alternate magnetisation and demagnetisation the succession of sounds gave rise to a musical note. The first to apply this discovery to the reproduction of musical sounds at a distance was Philip Reiss, of Friedrichsdorf, near Homburg. In 1861 he constructed an instrument in which the voice of the operator caused a thin parchment diaphragm to vibrate. Every vibration of the diaphragm made contact with a platinum point, and transmitted to the distant end an electrical current, which magnetised and demagnetised an electro-magnet, and therefore produced at the receiving station the same musical note as was sung into the instrument at the transmitting station. Cromwell Varley, in 1870, succeeded in producing sounds from a condenser apparatus made of a series of layers of paper and tinfoil, but he seems not to have applied his invention to telephonic purposes till the success of Bell's instrument (presently to be noticed) was established. In 1873 Elisha Gray, of Chicago, improved on Reiss's instrument by substituting tuning forks for a vibrating diaphragm, and has succeeded, by means of it, in causing an air played in Philadelphia to be heard at Washington. All these inventions, however, were successful only in transmitting musical sounds, whether of the voice or of an instrument. It was reserved for Professor Graham Bell, of Boston, in the United States, to invent a telephone which would render articulate speech uttered at one station audible at another. Like Reiss, Bell throws a diaphragm into a state of vibration ; his diaphragm is a disc of thin iron, which vibrates in front of a soft iron core, attached to the pole of a permanent magnet, and surrounded by a coil of insulated copper wire. Any movement of the diaphragm alters the condition of the magnetic field surrounding the iron core, and induces in the coil a current of electricity, the strength of which depends on the amplitude and rate of vibration. This is conveyed by a wire connected with the coil to a precisely similar instrument at a distant station, the parts only being arranged in an inverse order, so that the diaphragm at the receiving end is put into exactly the same state of vibration as that at the transmitting end. In this way Professor Bell has rendered it possible to reproduce at a distance the human voice with all its modulations. This telephone is already in use for business purposes in many cities of the United States, and Dr. Le Neve Foster has lately suggested that it might effectively be used for signalling in mines where the ignorance of the workmen would render the use of an

ordinary telegraph impossible. Unfortunately it requires to be served by a special wire; it is so sensitive that when attached to a wire of the ordinary postal telegraph it will be acted on by every current which passes through any of the wires on the same line. Hence, on a busy line, it emits sounds like the pattering of hail against a window, so loud as to overpower the effects of the human voice. Mr. T. A. Eddison, of New York, has constructed an instrument which is said to remedy these defects in Bell's, but it is still under trial.

An invention which promises to be of the greatest importance and public utility has been introduced at Paris by a Russian electrician, M. Jablochkoff. This invention is a new process of producing the electric light. It consists essentially of an arrangement by which the regulating apparatus for keeping the carbon points at a constant distance apart is superseded. This the inventor effects by placing the cylinders of carbon parallel to each other, separated by an insulating substance, which is fused at the same rate that the carbon points are consumed. When the current passes the electric arc is produced, and as the heat vaporises the insulating material the distance of the carbon points is maintained constant. The composition of the insulating material is as yet a secret, but its principal ingredient is understood to be china clay, and M. Jablochkoff has given it the name of Kaolin. The electric candle, as it is called, may be lighted from a distance by placing a piece of carbon between the points, which so soon as the current passes becomes hot, reddens, and finally consumes. A bit of lead, or of fine wire, answers the same purpose; continuity is broken, and the luminous arc appears. The light yielded by these candles is very powerful, and may be used effectively for lighting public places and buildings. Another part of the invention consists in the fact that when the main current of a machine is made to pass through the primary coil of a series of induction coils, and a plate of kaolin placed between the terminals of each coil, the induced current passes through the plate, which fuses gradually, and gives out a pure steady light. In this way several lights may be maintained by one current, and, as the light from the luminous kaolin is of great softness, they may effectively replace the ordinary gas jets in the streets or railway stations. Both of these methods of lighting were tried at the West India Docks on the night of the 15th June last, and were considered to be very successful. At the first experiment four electric candles were arranged in a large yard, the current being pro-

duced by an Alliance electro-magnetic machine, driven by a small steam-engine. The light obtained from them, though shaded by globes of ground glass, brilliantly illuminated the enclosure; a page of newspaper print could easily be read at a distance of 20 yards from any one of them, while the eye was not pained by the glare, as is commonly the case with the ordinary electric light. In another experiment, one of the top floors of a warehouse 120 feet by 65 feet, was effectively lighted by three candles. A large vessel by the quay side was illuminated by a portable light, as was also a portion of the quay. It is stated that each candle gives a light equal to that of 100 common gas jets, but at much less expense than that of the gas.

Biology.

Ever since the news of the arrival of the Colorado beetle in Canada and the eastern states of America, the whole of Europe has been in a state of alarm lest it should possibly be introduced into this quarter of the globe; and it must be confessed that the accounts received from the other side of the Atlantic, and the description of the habits and modes of progression of the insect fully warranted this alarm, and rendered necessary the adoption of the most stringent measures for the detection and destruction of the scourge. As far as the British isles are concerned, our minds may somewhat be tranquillised by the opinion of the naturalists assembled at the Plymouth meeting of the British Association, that the beetles could not endure the moist climate of this country. Even were there any chance of their surviving a wet winter, the insectivorous birds, of which there is a large number on this side of the Channel, would probably extirpate them. This, however, is but cold comfort for our friends on the Continent. The Colorado beetle, as it is called from the part of America where it first made its appearance, belongs to that subdivision of the coleopterous insects known as the *Phytophaga*, or vegetable feeders, of which the turnip flea is a familiar example. Its first describer, Say, placed it among the *Doryphoræ*, a genus of this subdivision, but it is now believed by entomologists to belong to the *Chrysomelæ;* and the latest authority (Chapuis) proposes a subdivision of this genus, placing the Colorado beetle and its relations in a new sub-genus, the *Polygrammæ*. Its correct specific name is now, therefore, *Polygramma Decemlineata*, from the ten longitudinal stripes which it

bears on its wing-cases. All the species feed on the plants belonging to the order *Solanaceæ*, the particular insect in question attaching itself to the potato, of which it devours the stem and leaves; but, in the absence of its favourite food, it seems to be able to live on other plants, a faculty which renders it all the more dangerous. From the ability of the insect to travel long distances on shipboard, and the extensive nature of Transatlantic traffic, it would seem almost impossible to prevent it from reaching the shores of Europe alive; the most feasible measure appears to be to destroy it at once on its arrival. Early precautions were taken by the German Government. Not only descriptions and drawings, but carefully executed models of the beetle were distributed all over the country, so as to enable the people to recognise it at once should it make its appearance. The only authentic instance of its being seen in any numbers on the Continent was in the month of May, at Mühlheim, near Cologne, in a potato-field belonging to an American bacon-factor, in whose wares it had doubtless secreted itself. By drenching the ridges of the field with petroleum and firing them, the pest in this case seems to have been extirpated. At home the Government have also circulated drawings of the insect; notwithstanding which, however, we have been treated to several false alarms, notably at Hereford, where the not uncommon seven-spotted ladybird was mistaken for the dreaded beetle. In two cases at Liverpool the real Simon Pure was detected on board ships trading with America, but was fortunately destroyed before it could propagate the species in this country. It has also been found alive in the post, transmitted by persons in America to entomological friends on this side of the Atlantic.

The battle between the adherents and the opponents of the Theory of Spontaneous Generation still rages. Dr. Bastian, on this side of the Channel, continues to maintain that a decoction of hay or of other putrefiable substance will, even after having been raised to a temperature higher than that of boiling water, and being deprived of all access to the air, yet in a few hours swarm with animal life; while M. Pasteur, the leader of the biogenesists on the Continent, maintains that, with proper precautions, such a decoction can be absolutely sterilised. This year what promised to be a fight at close quarters ended in something very like a *fiasco;* unfortunately—for had the combatants had an opportunity of seeing and proving each other's weapons, it might have terminated by the surrender of one of

them. To a statement of Dr. Bastian—that after the addition of a strong and absolutely sterile solution of caustic potash to a putrescible but sterile liquid the latter would in a short time teem with living organisms—M. Pasteur demurred, and defied his opponent to obtain, in the presence of competent judges, the results which he had described. Dr. Bastian accepted the challenge, and a commission of the French Académie des Sciences, consisting of MM. Dumas, Milne-Edwards, and Boussingault (subsequently replaced by M. van Tieghem), was appointed to observe and report on his experiments. Stipulating that the Commission should limit themselves to reporting on the special experiments without entering into their general bearing on the Spontaneous Generation question, Dr. Bastian consented to go to France, and to perform them in M. Pasteur's own laboratory. On arriving in Paris, however, in the middle of last July, he found that the Commission reserved to themselves the right of varying the experiments as they might see fit, a condition which he naturally declined to accept. In justice, however, to Dr. Bastian's adversaries, it should be stated that had he wished he might have had the same opportunity of proving his results at home. Dr. Tyndall and Dr. Roberts, in a paper read at the end of last year before the Royal Society, describe the experiments they have made under the conditions laid down by Dr. Bastian, and deny that with the necessary precautions his results will be obtained. On the general question of spontaneous generation, Professor Tyndall has also thrown great light by experiments tending to prove that the living organisms which make their appearance in fermenting or decaying infusions, can at certain periods of their incubation resist a heat which at other periods will utterly destroy them. He found that even eight hours continuous boiling of an infusion of old hay failed to deprive the germs in it of life, while heating it intermittently for a few minutes at a time was sufficient to sterilise it. Tyndall has also come to the conclusion that an infusion can be sterilised by depriving it for a lengthened time of all access to oxygen, even without boiling.

A zoological discovery is reported from New Guinea, by Herr Bruijn, of Ternate. Last year he obtained proofs of the existence in that island of a species of *Tachyglossus* (called by some zoologists *Echidna*). These proofs are as yet rather scanty, inasmuch as they consist of only a couple of skulls, one of which he has sent to the Museo Civico at Genoa; he has not yet seen the living

animal.* The Tachyglossus is one of the two genera of the mammalian order of Monotremata, better known, perhaps, to the people of this country by means of that curious animal (the representative of the other genus of the order), the Ornithorynchus, or Duck-billed Platypus. Both genera have hitherto been found only in Southern Australia and Tasmania, and the discovery of a new Papuan species is significant as adding to the indications of a former connection between the island of New Guinea and the Australian continent.

Mechanics.

Near Alexandria, in Egypt, there stands a celebrated monolith, which, for some reason or from some tradition unknown, commonly goes by the name of Cleopatra's Needle. It is one of a pair which were brought from Heliopolis in the reign of Tiberius (A.D. 143), and set up in front of the temple of Cæsar, which the Alexandrians had erected in honour of the Emperor. The second obelisk, which lies, or rather lay, half buried in the sand, was presented more than a couple of generations ago, by Mehemet Ali, to the British Government, which, however, on account of the expense of removal to this country, has not been able to take full advantage of the gift. Lately a private individual, Mr. Erasmus Wilson, F.R.S., has offered to be at the expense of bringing it here with a view to its being erected in some public place in London, just as the Luxor obelisk has been set up in Paris. Each of these Cleopatra's Needles (for it is unfair to speak of one only) is 64 feet high, and measures 8 feet at the base; it has been cut out of a single block of syenite, or red granite, contains 1,600 cubic feet of stone, and weighs about 118 tons. The removal to England has been undertaken by Mr. John Dixon, C.E., who has undertaken the contract for bringing the obelisk into the Thames at the inclusive sum of 10,000*l*. Mr. Dixon's plan of accomplishing this gigantic undertaking is as bold as it is novel; he has cased the monolith in an immense iron cylinder, 92 feet long and 15 feet in diameter, and this will in fact form the ship in which the obelisk is to perform the voyage. By the latest accounts the cylinder has been safely rolled down

* According to the latest intelligence, Herr Bruijn, in his expedition to New Guinea last June, has succeeded in obtaining examples of both sexes of the *Tachyglossus bruijnii* in the mountains on the north coast of that island. From a paper read at a meeting of the Linnean Society of New South Wales on the 26th March, it seems that another species of Tachyglossus (named from its discoverer, Mr. Lawes, *Tachyglossus lawesii*) has been found at Port Moresby, New Guinea, a species which differs as well from Herr Bruijn's animal above described as from the species already known in Australia and Tasmania.

to the shore, and launched in 7 feet of water. At this point some delay occurred, owing to a temporary leakage, but on that being remedied the cylinder was towed round into the harbour. Here it is to be fitted with keelsons, rudder, and mast, so as to make a complete iron ship, which, when finished, will have a total draught of 9 feet, and a displacement of 280 tons. The most arduous part of the enterprise, the voyage to London, which is to be effected by towing, has yet to be accomplished.* That it may be successful must be the ardent wish of every one who can admire both the liberality of Mr. Wilson, and the engineering skill of Mr. Dixon.

Sad news comes from the Eddystone Lighthouse; the rock on which Smeaton's great work stands has been found to be undermined and weakened, though the lighthouse itself is as strong as ever. Almost too strong, it may be thought, for so secure is the bonding of the tower to the rock that they form but one piece, and the mischief has probably been caused by the incessant straining of the rock from the heavy strokes of the sea on the tower. Fortunately, as Mr. J. N. Douglass, of the Trinity House, explained in the Mechanical Section of the British Association at its Plymouth meeting, a good foundation for a new structure of larger dimensions has been found about 120 feet distant from the old one, and considerable advantage will be gained by its erection there. The importance of having in this position a first-class light, provided with all the apparatus which modern science has made indispensable, can scarcely be overrated. In Smeaton's time no doubt his lighthouse answered all, and more than all its requirements, but since then the enormous increase in the number of shipping, and the additional lighthouses which have been established, each having a separate period, have altered the conditions of the problem that he had to solve. During stormy weather the sea often rises above the lantern of the present lighthouse, momentarily eclipsing the light, and altering its distinctive character. The building which it is proposed to construct will be of greater height, so as to obviate this difficulty; it will also be of capacity sufficient to allow the light to be raised to the first class, and it will be provided with a first class fog-horn, for which there is no accommodation in the present lighthouse.

J. F. Iselin.

* At the time that this article is being printed the *Cleopatra*, as the iron ship is called, is reported to have left Gibraltar for Falmouth, in tow of the steamer *Olga*, "all well."

THE EXHIBITIONS OF PICTURES IN 1877.

Artists complain that it has not been a good year for the sale of pictures; but there was no diminution in their production, or in the number of public and trading exhibitions. The quality of the pictures is of course another matter. It would be repeating a thrice-told tale to say that 1877 has not been fruitful in works of eminent merit or permanent value. But if we are conscious of a very general absence of elevation of purpose and dignity of style, we can at least take comfort, such as it is, in the evidence afforded, especially by our younger painters, of neater handiwork, more polished execution, and more careful study than we have of late been accustomed to. In the lowlier and homelier classes of pictures now chiefly affected, there has been shown abundance of industry and much really good work. Our artists do not aim high, but within their modest range they are fairly successful. Heedless of posterity, they work for the day and the dealer. And this ensures a certain standard of skilful and finished execution. Dealers must have what suits and will satisfy their customers. They find a ready market for familiar subjects, but they insist on good, or good-looking, work, and this artists are careful to provide. They know their generation and are wise in it.

It is not a hopeful outlook, perhaps, for English art; but no one would advise the individual painter to run counter to the popular taste. The artist who aims above the knowledge and feeling of his age must reckon on misconception and possible neglect, whilst he who floats with the current and steers prudently is sure to win plaudits and a forward place in the race.

The Royal Academy Exhibition of 1877 was deficient in great pictures, and pictures that left a strong impress on the memory. No picture seized the popular fancy so as to need a barrier to protect it or a policeman by its side to keep the crowd moving. Many of the more distinguished painters were absent, or only represented by comparatively unimportant works. Painters who a few years ago promised great things, and who in each succeeding year we had hoped were only holding back to gather strength for some braver and bolder effort, seem now to have settled down in apathetic content, or to have been arrested on their way by the fatal "no farther." But besides this

ever-gathering crowd of mediocrity, the Exhibition showed more than one instance of proud hopes dashed down, and as it would appear irretrievably shattered. Yet with the old hopes crushed or fading, there was, as in the wider world outside, a springing up of new and as fair, if not fairer promise, to be in its turn much of it no doubt crushed and cast aside; but much also, we may trust, to expand into lovely flower and full fruitage.

The picture which attracted most attention and most stimulated conversation was probably Mr. Long's "Egyptian Feast" (No. 83). And the distinction was well earned. Its dimensions—it is over twelve feet by six—the crowd of figures and their unusual costume and occupations, irresistibly attracted the multitude, but they did not suffice, any more than the sterling merits of the work, to detain them long. Partly the failure of the picture to secure more than a passing interest in the mass of visitors, may have been due to the strangeness of the theme and the actors; but more, we suspect, was owing to the lack of story. Neither people nor moral appealed directly enough to the popular sympathy and understanding. But the picture is a very noble one, and it has a moral quite sufficiently apparent. The assemblage of a large number of notable guests in the banqueting hall of an Egyptian palace, with the unbounded licence given to the imagination of the painter by the lapse of ages and the dreams of historians and antiquarians, would allow of any degree of sombre grandeur, picturesque splendour, or scenic effect. But the painter of the "Egyptian Feast" selected the moment and incident which allowed also the addition of a dramatic colouring or an ethical lesson. The feast is over, and the image of a corpse carved and painted to imitate the newly dead, is being carried round to the several guests, with the reminder, "gaze here: drink and be merry, for as this is so you will be." So at least Herodotus tells; but the painter has left the strict rendering of his text, and, instead of a simulacrum carried round to the several tables, has represented a full-sized mummy dragged with toilsome effort along the marble floor by two stalwart negro slaves, and by the varied expressions of the leading personages seems to intimate that the lesson intended to be conveyed was that of the shortness and uncertainty of life, with the ominous conclusion of the modern preacher, "Wherefore prepare!" Yet if so, the lesson was as ineffectual in ancient Egypt as in modern Gaul or Britain. The wealthy, the young,

and the beautiful are heedless or defiant; some elders gaze sadly or moodily, and the circle is completed by a lithe young naked dancing girl and a group of musicians waiting with disdainful indifference till the grim ceremony is over, to begin their ministrations, which they are conscious will quickly dispel any solemn forebodings. Very happily has Mr. Long worked out his conception of the scene. That it is not to be taken as a representation of an actual Egyptian feast, any one who has studied Egyptian history and Egyptian remains will at once feel. Apart from the substitution of the real bier and mummy for its portable and toy-like effigy, the whole scene, the banqueting hall and its furniture, the architecture, sculpture, mural decorations, guests, everything is on an impossible scale. But allowing for the pictorial or poetical exaggeration, and taking it from the artist's own point of view, the work is a very fine one. It bears a thoroughly national and antique impress, and yet a warm human interest. The forms and features are true and characteristic, the expressions natural, varied, and unexaggerated. Turning to the auxiliaries, it is impossible not to be struck by the labour and intelligence with which the almost endless array of details has been collected and employed, and yet kept fairly subordinate to the general effect. Over the whole is spread the atmosphere of ancient Egypt, with an entire absence of antiquarian pedantry or parade. The technical merits of the work are equally high. The drawing is generally excellent, the colour clear bright and harmonious as befits an Egyptian festival, and the handling light and graceful. Parts seemed somewhat unduly slighted; but doubtless the artist will already have corrected the weak points of his work which revealed themselves on the Academy walls under the searching review of adverse and friendly critics, or the still keener criticism of Mr. Long himself.

Next in size and importance in this class of pictures, and equally marked by learning, research, and careful and conscientious execution, was the "Serf Emancipation" (168) of Mr. E. Armitage, R.A. A Saxon noble on his death-bed is represented giving freedom to his serfs. The bed is placed in an open court, the only shelter to the dying man being a shallow pent-house. Around him are grouped his family, a priest or two, and his higher retainers; the serfs, of all ages and grades, and in a great variety of garbs, are standing or kneeling before him, and a motley crowd of spectators is collected about the open gateway, but prevented from entering by a massive chain

suspended across it. Here would seem to be at once dramatic, historical, and moral incident; something to stir the imagination, quicken the memory, and touch the feelings. But though the picture is most carefully painted, the subject fairly well thought out, and the costumes and accessories almost too minutely accurate, the one touch of life is wanting, and the spectator looks on it unmoved and unsympathetic. Mr. Armitage paints nothing that he does not paint well and considerately, but in this picture, with all its excellences, unreality is predominant. There was little reason to complain of coldness and over precision in Sir John Gilbert's rendering of the reception of the fallen "Cardinal Wolsey at the Abbey Gate, Leicester," which Shakspere has painted for all time in those four lines which bring home to the mind the reality with a vividness no one else can hope to equal. More in accord with Sir John Gilbert's pencil was his "Doge of Venice in Council" (336), where his love of brilliant colour and powerful chiaroscuro had full play.

This is more than could be said of Mr. Elmore's "Mary Queen of Scots and Darnley at Jedburgh" (282), which was a vapid and vulgar Stricklandish travestie of history, without any technical merits to atone for its mental defects. Very little better was Mr. Eyre Crowe's melodramatic "Sanctuary" (9), the meaning of which passes our comprehension, but which certain popular Notes tell us, illustrates a "Custom of the past,—taking refuge from husbands in a church!"

In No. 19 "The Tumult in the House of Commons, March 2nd, 1629," Mr. Gow very nearly succeeded in producing a good picture, but he has spoiled it by over emphasizing the rudeness and violence of the Puritan members, who in gentlemanly aspect and bearing, notwithstanding what South said of Cromwell, were at least on an equality with their Cavalier fellow-members.

Mr. Wynfield can only be commended for aiming high. Subjects like "David playing before Saul" (1363), demand something more than the old worn out conventional tone and treatment. For neither choice of subject, nor management of it when chosen, in the huge sensational representation of the "Death of Amy Robsart" (1027), can Mr. Yeames be complimented. The picture is as disagreeable to look at as it is ignoble in style and untrue in fact. Equally bad in choice of subject is Mr. Wallis's "Louis XI and Cardinal Balue" (987); the king with a vacant stare regarding the cardinal, whom he has entrapped in an iron cage. The picture is not without its technical merits, but no

technical merits would make such a subject endurable. Mr. Wallis had another, and more modest picture in the Exhibition, "The Physician" (1359), which was worthier of his old reputation: but he will have to do something better in order to win back his laurels.

Among the works of the new men, a good place must be assigned to the Cromwellian pictures of Mr. Crofts, "Oliver Cromwell at Marston Moor" (497), and "Ironsides returning from sacking a Cavalier's House" (528). There are marks of immaturity in them, and the artist has taken up too easily with the conventional notion of the Puritan soldier, but they show vigour, insight, and intelligence, and give promise of still better things. Somewhat more *ad captandum*, more calculated for the dealers' and the popular eye, but still very bright, clever, and promising, were "The Burgomaster" (970), and the "Intercepted Despatches" (573), of Mr. Seymour Lucas, a name sure to be heard of again. Bolder in effort, and as successful in result, was Mr. C. J. Staniland's "Fugitives for Conscience Sake" (645), but both artists should beware of theatrical exaggeration.

The triptych (574–76) of the "Story of Ruth," by Mr. T. M. Rooke, would deserve notice, if only as one of the very few religious pictures by our younger men; but it also deserves notice on its own account. With some *pseudo* sentimentalism and more affectation, it bears unmistakable evidence of serious purpose, and true artistic feeling and capacity, and should be the precursor of works fitted to interest a far wider circle than this one ever could hope to touch.

Of a less ambitious order was Mr. Leighton's very charming semi-oriental study, "the Music Lesson," delightful for the elegance and refinement of form and feature in the two girls, and delicate harmony of colour in the draperies. The painter of the "Diaphnephoria" suggests at once the painter of the "Atalanta." Like Mr. Leighton, Mr. Poynter had no large picture in this year's Exhibition. Besides a portrait, his only contribution was "The Fortune Teller" (503),—his diploma picture—a naked girl of Ancient Greece or Rome, sitting by her bath, whilst an old wizard gazes alternately at the maiden and a crystal sphere which she holds in her hand and in which she reads the teachings of destiny. The style, as befits an Academy picture, is somewhat severely academical; the nude figure is admirably drawn and modelled, the ample drapery of the fortune teller is disposed in large folds, and the whole has a more classic

air than is usual now-a-days. The only drawbacks are somewhat too great reticence in colour, and the smooth waxen surface for which Mr. Poynter shows an increasing fondness.

Mr. Alma Tadema's "Seasons" (117), are four small upright panels, representing the seasons as they may have appeared in the palmy days of Ancient Rome, and form a dainty set of decorative works, not particularly interesting for their subjects, but executed with all the artist's almost matchless manipulative dexterity. The colour is kept low in tone, but parts flash out with singular brilliancy. Unfortunately they were very badly placed, and half their beauties passed unnoticed by the crowd. Less agreeable in subject, but more brilliant in colour, was his other contribution, "Between Hope and Fear" (597). Mr. A. Moore in his "Reader" (469), the last of the classic pictures we need note, is as graceful in design and delicate in colour as he is wont to be, but even more unsubstantial and tapestry-like in execution. We heartily wish he would try a more solid and more masculine manner. He is treading dangerous ground.

Mr. Marks did not this year reach the level of his "Three Jolly Postboys," but "The Spider and the Fly" (313), a spendthrift Cavalier in the shabby den of a money lender, bartering his title deeds, showed the old keen observation and discrimination of character, though lacking the easy spontaneity of former works. His "Bit of Blue" (246), an elderly connoisseur contemplating a newly-arrived piece of blue crockery, we take to be a portrait, and a very characteristic one. There is hardly humour enough for an imaginative work. The most genuinely humorous picture in the Exhibition was one by Mr. Watson Nicol, a name quite new to us. "When a man's single he lives at his Ease" (516), a bachelor in an unbuttoned suit of green, stretched out at length beside a table, which bears a flask of old wine and a dish of ripe fruit, watching, in careless luxury, the smoke he is puffing out ascend in spiral rings to the ceiling of his scantily-furnished garret. The pose is perfect, and nothing can exceed the air of easy enjoyment and abandon. Seldom is a first work so successful. The elder painter of the same name, Mr. Erskine Nicol, had in his "Legal Adviser" (56), a bit of homely Irish humour, nearly as bright as of old, but the harp of one string becomes wearisome at length, be it played on never so craftily.

In "The Old Pump Room, Bath" (67), Mr. Storey had a capital subject, and he had formed a fair notion of its capabilities, but the picture is spoiled by irresolution and want of

finish. Better wrought out, but still too careless in finish, was the somewhat similar "Queen of the Swords" (174), of Mr. Orchardson, a work which, if the execution had been equal to the conception, would have made a reputation. Of the same period was Mr. Perugini's clever piece of pictorial comedy, just bordering on farce, "Finishing Touches" (8).

Mr. J. Clark's carefully painted "Early Promise" (292) had the honour to be purchased by the Royal Academy—and the Academy ought to know a good picture. That the picture is one of good intentions there can be no question. The benevolent clergyman and his amiable daughter—note her irreproachable costume and thoughtful face—who are criticising so approvingly the good boy's drawings in the faultlessly clean cottage room, the bashful boy himself and his awe-stricken but happy mother, are all in the highest style of pietistic excellence. Mr. Clark painted more masculine pictures once, and will, we hope, again. Mr. Burr's "Village Doctor" (483), with an equally homely theme, and even humbler actors and accessories, was a far manlier and worthier conception, and less finical though also less neat in execution. The veteran Thomas Webster, whose works of old were a perennial source of delight, still, we are glad to see, wields his pencil. "The Letter" (187), an aged couple reading eagerly a letter just received from an emigrant, or it may be a prodigal, son, is, like Mr. Clark's, somewhat overmuch goody in character. But we readily listen to an ethical lesson from a man bordering on fourscore, and heartily hope he will give us many more. Titian lived to be ninety and nine, and painted till the plague arrested his hand; may Webster live to be as old or older, and paint as well to the end.

We might go on for a long while with these enjoyable unambitious domestic drawing-room pictures, which in fact formed the staple of the Exhibition, and were certainly the pleasantest part of it, but there would be little gain in the enumeration. Yet one does not like to pass without a word of friendly recognition such graceful works as Leslie's "Cowslips" (101); or Waller's "Home" (453); Hodgson's oriental subjects, how delicious is the repose in "Commercial Activity in the East" (124)—we don't care a straw for his huge English landscape (428); Mr. F. Morgan's capital "Parting Shot" (474); Mr. Holyoake's promising "Lover's Vows" (611); the very clever "New Sign for an Old Score" (1381), of Mr. Glindoni; and Mr. Macbeth's "Potato Harvest in the Fens" (1031), a work which, in spite of some extravagance

and some incompleteness, displays both originality and power—qualities with which the artistic market is not at present overstocked. The dreary failures of Mr. Herkomer and Mr. Fildes, from whom we all looked for something really great, we may for the present pass over. Older men fail too, as was shown in Mr. Faed's absurd "Runaway Horse," and other Royal Academicians' work, and there is a better chance of the younger men retrieving their failures.

But it is time we noted the progress, or want of progress, in landscape art. In truth, landscape painting is in a very different condition in England when compared with what it was in times past. Never probably were there so many landscape painters, never certainly was there so little originality, fancy, invention. Landscape has with us become little more than a clever undisciplined transcript from nature. The modifying and ennobling influence of the poetic imagination is absent and uncared for. So too is the apprehensive and analytical faculty by which the great artist seizes at a glance the central idea, selects what is essential, and rejects whatever is unnecessary or antipathetic, and reproduces by the magic of his pencil not merely the scene as it is in nature, but as he saw and felt it.

Of the landscapes at the Academy, Millais's "Sound of Many Waters" (273), was by many degrees the most attractive. Not so novel as some of its predecessors, ultimately, we are inclined to believe, it will take higher rank than any of them. The rocks, the hillsides and blooming heather, the distant moor and the rushing water, are rendered with unimpeachable truth and felicity. We feel the mountain breeze blowing over and enlivening all. Only we miss the welding power that binds the whole together. The parts are faultless, but they seem to have been studied and copied separately. With all his singular appreciative knowledge of Highland landscape, Millais appears never to have felt the all-pervading influence of the atmosphere, though to it such scenery owes half its charm and more than half its power. Whoever has dwelt amongst mountains must have been conscious how much of the majesty and mystery of the scenery was due to atmospheric phenomena; how entirely the landscape of yesterday differed from that of to-day, and how this again may differ from that of to-morrow. Turner fully recognized this, and in all his wider and grander scenes, the sky and the atmosphere are the vehicles of bringing the whole into concord and lifting the landscape from the region of common-

place into that of poetry. But with Millais, sky and moor and mountain revel each in its distinctive beauty, but seem to have little connection with or influence on each other. "The Sound of Many Waters" is a vigorous realistic interpretation of the scene, but it is not poetry.

Still more intensely realistic, and painted with a fine perception of natural characteristics in form, colour, and surface, was the large view of "Mount's Bay" (946), by John Brett. Nothing in the way of imitation could probably surpass the representation of granite and gorse under strong sunlight, or the minute accuracy of wave curve and colour, but on most minds the effect of the picture as a whole would be rather of surprise at its general aspect, and admiration of the patient labour and skill of the artist, than of delight in the work itself.

In this respect the contrast was very great between it and the smaller and apparently slighter coast scenes of J. C. Hook. "The Gull Catcher" (182) was just a sunny slip from the South Coast, with an idle boy angling for gulls, but so clear and bright and true that the visitor found himself involuntarily returning to it again and again. This, the "Word from the Missing" (126), and "Friends in Rough Weather," have been complained of as "slight and scratchy," but the ease and breadth of handling are the result of a thorough mastery of the materials and technicalities of oil painting, an intimate acquaintance with nature in all her moods, and a clear conception of the object in view, and the power to stop when that object was attained. Better sea painting, under the artist's own conditions, was never achieved. Only one could wish the power had been expended on some nobler theme. Probably, however, the artist knows best his own limitations, and we must take what he will give us and be thankful. Mr. Hook's inland scene, "He shot a fine shoot" (337), was a very charming landscape spoiled, to our thinking, by the brilliant heap of dead birds in the foreground, though that was just what seemed to call forth the most voluble admiration.

Our space has so nearly run out, that we can only mention a few of the other landscapes we should have liked to dwell upon. Taking them as our notes stand, we may point to the last unfinished work of Frederick Lewis (454), as showing that the right hand of the brave old man had lost little of its cunning when it laid down its pencil for ever at the call of Death. Another veteran, John Linnell, still happily at work and still

vigorous, contributed a characteristic "Autumn" (552): may the Winter be long in coming! Vicat Cole's largest picture (7 feet by 4½), "Arundel" (432), was as carefully wrought but scarcely as effective as other of his recent works; but his smaller "Summer Showers" (239), a reach of the upper Thames, made ample amends. Worthy companion to it was Mr. Aumonier's "Easton Broad" (265), the truth and charm of which every one who knows the Suffolk broads would promptly recognise. The Surrey heaths found an equally characteristic interpreter in Frank Walton, and the Cheviot ridges in Mr. J. W. Oakes. Mr. E. W. Cooke was, of course, quite at home in a "Schevening Pink preparing for Sea" (288), and, what was hardly to be expected, under an avenue of "Date Palms and Bananas in the Garden of the Khedive's Palace at Gezeereh" (354). Mr. P. Graham had a characteristic "Glint of Sunshine" (46), highland moor and cattle, which F. Goodall capped with a companion, like it, but still better, "Glencroe" (2). To show his versatility, we suppose, Mr. Goodall sent "The Time of Roses," painted exactly in the manner of the neo-mediævalists, as well as "The Water Carriers: Egypt" (614), in the style that he has for many years made so entirely his own. Mr. Alfred Hunt's "Wreck on the Coast of Yorkshire" (390), and Mr. H. Moore's "Loss of a Barque in Yarmouth Roads" (489), were very good examples of their well-known manners, but to both painters the sea seems to reveal itself under only one aspect. Mr. Lawson showed a commendable desire to step aside from the beaten track in his "View from Don Saltero's, Cheyne Walk, temp. 1770." "Still Waters" (601), by Mr. Fahey; "Broadsea" (604), by Mr. Reid; Mr. McWhirter's "Source of a River," and Birket Foster's "Brook," were also good and pleasant pictures in their several ways.

But we can linger no longer, though we have not mentioned the portraits—in which, by general consent, this year Mr. Ouless bore away the bell; nor the animals, in which a new man, Mr. Charlton, made a very successful *début* with his "Rescue" (488), a most promising work; Mr. Rivière hardly did himself justice, Mr. Goddard produced a surprising tableau of the "Fall of Man," and Messrs. Ansdell and Cooper painted as they have painted ever since we remember them.

The Exhibition of The Society of British Artists it would be idle to speak of. It seems doomed to hopeless decline. The two water colour galleries had many bright and charming

pictures, but just of the old kind, and not such as would in any way help to illustrate the progress of English Art. In the gallery of The Society of Painters in Water Colours, Mrs. Allingham's "Old Men's Gardens, Chelsea Hospital" (138), and Sir John Gilbert's "Marston Moor" (8), Alma Tadema's "Scroll," and Walter Duncan's "Love, Scandal, and Politics," were amongst the more noticeable of the figure pieces. But the great majority of the pictures were landscapes, and as a rule such as the painters' names would suggest. Newton had his highly-wrought mountains, Davidson broad heaths and heavy trees, and Powell and Danby coast scenes and lakes; Fripp, Barnes, S. Palmer, and Dodgson, had very delicately painted landscapes of the olden fashion, and Boyce and A. W. Hunt some as nicely painted in the newer mode, while Willis's vigorous cattle pieces agreeably varied the show. At the Institute, if there was less uniform excellence, there was greater variety and perhaps a little more freshness. At any rate, Messrs. Louis Haghe, Orrocks, Wolf, Green, Wilson, Linton, and Seymour Lucas, furnished a welcome foil to the larger display of landscapes. Many of the landscapes were, however, very excellent. Holloway, Aumonier, Warren, Collier, Fahey, all did well in their several ways, and Hine even better than usual, with a large view of "The Weald of Sussex," and a delicately rendered "Moonlight on the South Downs."

The most interesting event of the past year in connection with Art Exhibitions was perhaps the opening of the Grosvenor Gallery. So much had been said in anticipation of it, both in journals and drawing-rooms, as to excite very general curiosity, and a certain mystery, maintained almost to the opening day, as to its precise scope and purpose, added a flavour of piquancy. It was known that it was the project and private venture of Sir Coutts Lindsay, who, it was rumoured, had already expended far over £100,000 upon it, and who retained the entire control and direction of the exhibition. His aim, it was said, was to elevate public taste, but especially the taste of the higher and influential classes. It was to serve as an example not only of what a public picture gallery ought to be, but how in a private gallery or drawing-room, the utmost splendour might be combined with the most perfect taste, the noblest pictures with the most gorgeous furniture and fittings; and with all this, it was said, there was to be, as an integral element of the scheme, a novel art-club, and a restaurant of unrivalled capacity, and more

than club-house splendour, comfort, and good cooking. Externally there was not much in the building to satisfy the curious inquirer. Of the façade only the entrance portal was completed, but that, brought bodily from an Italian Church, was richer and nobler than most modern street doorways. When at length the gallery was opened, it was generally acknowledged that the splendour and novelty had not been overrated. And yet everybody's admiration was qualified. The entrance and staircase were chaste and charming; the rooms splendid—surely too splendid. The crimson satin wall-lining, and gilded pilasters and furniture *killed* the pictures—so at least the painters said, and so the painters' friends repeated.

In truth, and there is no use now in palliating the admission, the pictures were as an exhibition something very like a failure. The first feeling they excited was one of surprise, the next of disappointment. For a few days the pictures supplied society with a topic for a little lively or languid debate, but the feeble interest they aroused at first became more and more feeble as time wore on, and had died out utterly before the day came for closing the doors.

Very largely the failure was due to the principle on which the selection was made, and the exhibition conducted. Pictures were admitted *solely* on Sir Coutts Lindsay's invitation. In the nature of things, Sir Coutts would be a man of strong opinions in art matters. Almost as a matter of course the selection would be restricted and one-sided. A sect, or party, or clique in art, so at least the outer world assumed, would find favour to the exclusion of those who did not form part thereof, to say nothing of the influence of personal likes and dislikes. The director, we may be sure, did not mean to be unfair; but, as a matter of fact, the exhibitors were few in number, and, with the exception of perhaps a dozen Academicians and fashionable painters, belonged chiefly to a particular school.

Our space is exhausted, and we are thus happily spared the necessity of speaking of individual artists; but we must not close without paying unaffected homage to Sir Coutts Lindsay's public spirit. The effort is a brave and thoroughly unselfish one. A mistake may have been made in the manner of carrying it out, but this can be remedied in the future, and the scheme and its author merit all honour and respectful recognition.

THE MUSIC OF THE YEAR 1877.

If activity in the concert room could be accepted as a sure sign of musical progress the year 1877 would be memorable in the annals of the art in this country. Not only have we to chronicle the Triennial Handel celebration at the Crystal Palace, the provincial festivals at Brighton, Edinburgh, Gloucester and Leeds, and many musical performances of exceptional interest in the Metropolis, including the revival of Handel's *Hercules*, by Mr. Henry Leslie : but we have to record the consummation of the fondest hopes of the English devotees of the Music of the Future, in the shape of a Wagner Festival at the Royal Albert Hall, when the composer of the Baireuth Trilogy conducted the recitals of his works, which were interpreted by a party of German singers brought to England for the purpose. Unfortunately, however, there is in music as in painting, a fashion which too often conceals the absence of real taste, and generates a sort of fictitious enthusiasm that passes muster for something far higher and nobler than itself, and thus we are obliged to go below the surface, and to look at the home music of the people, if we wish to gauge with any accuracy the movement of the popular taste. And, thus looking, it is difficult to discern those marks of development and progress which the true musician who loves his art for its own sake would fain see. We do not find for instance in our drawing room music that widespread abandonment of the showy pianoforte pieces of the modern school, in favour of the classics of the instrument, which we might expect after watching the rapt attention of a Monday Popular Concert audience at St. James's Hall, nor do we hear the purer style of vocal music, whether solo or concerted, which we might justly look for from persons who throng our concert rooms when Mr. Henry Leslie's choir is singing. There is then something more to be desired than we have yet attained, and it lies, we do not hesitate to say, in the reform of the present system of teaching the art in our schools and homes. So long as instruction in music is left, as it often is, to persons who are not merely unqualified in the sense of having had no professional training at a properly constituted school, but who, while able to play mechanically, are utterly devoid of the power or skill necessary for imparting to their pupils even what they themselves know, so long shall we have to lament the absence of that culture which alone can lead to the formation of a pure taste. It would indeed be strange if it were

otherwise. In selecting a schoolmaster an aptitude for teaching is rightly held to be quite as essential a consideration as personal attainments in the subjects to be taught, and yet when music is to be dealt with it is thought to be sufficient if the "professor" is a brilliant executant, and can command unlimited digital power in a fantasia or variations on some well-worn air. Music thus taught can scarcely be regarded as an art, and certainly is in no sense a science, so that two of its most important aspects are practically left out of consideration altogether, and it is the hand and not the mind of the pupil which is exercised.

Nor is this evil of an utterly senseless and unintelligent method of treating an art which is not merely beautiful but intellectual confined to the instruction given by its teachers in any one class of society. If we turn to the lower grades of the population we find the Government assisting in the maintenance of the same evil by its expenditure upon the grants for what is termed "Music" in the primary schools of the country. The work thus described consists in a majority of cases not in sight-singing, but in singing by ear, a process very near akin to the parrot-like system of enforced repetitions of hundreds of lines of Virgil or Horace which formed the "imposition" of public school life in days which have even now scarcely passed away. The nation, or that section of it which cares for any of these things, perhaps cherishes the idea that as it is paying for the musical education of the children in the national schools it is gradually transforming the scholars into incipient musicians, but this is a fatal mistake. As Dr. Hullah points out in his last Report to the Committee of Council on the subject, every class of the community has directly or indirectly profited by the impulse given to musical instruction by their Lordships in 1840–41, except that particular class which it was hoped and believed would profit most largely from it. Indeed, what has lately been done for music in schools has rather impeded than furthered its improvement. The "songs" for the last few years required of scholars are, Dr. Hullah asserts, without exaggeration, "not merely worthless as means of musical culture, but they take up time that might be given to the real study of the subject, and thus, so I have been repeatedly told by schoolmasters whom I know to be competent to teach, prevent their turning their knowledge to account in teaching their pupils, not half-a-dozen songs—but music." In confirmation of this view we have the startling statement that out of 1,964 students

examined in the Training Colleges last year, the majority of whom had been pupil teachers, 803 reported themselves as having entered their colleges wholly ignorant of music, which is equivalent to an admission that in the schools whence they came, and of which they were probably the picked pupils, no attempt is made to give any musical instruction worthy of the name. And this is, it is to be feared, a far from uncommon case. To earn the grant for music it is at present only needful to satisfy the ear of an inspector, who is too often unacquainted even with musical notation, by the performance of a few simple school songs, and until this system is altered there will be very little real improvement. When it is remembered that the future teachers of our primary schools are being prepared at the Training Colleges to teach music as music, and not simply to lead the children in singing a few melodies, this will appear to be a very unsatisfactory conclusion of the matter, and it is to be hoped that the proposal of Dr. Hullah for a *bonâ fide* musical examination in every school in receipt of a grant will ultimately be adopted. There can be little doubt that the prospect of the musical Inspector's visit to the schools would exercise the same healthy and stimulating influence which has followed in nearly every case, under similar circumstances, in the Training Colleges; and at any rate, it is almost an absurdity to test musical proficiency on the same principle on which the young graduate who holds office as Her Majesty's Inspector is made the authorized judge of the acquirements of girls in needlework and embroidery. If music is worth paying for, it is worth teaching, and as a corollary to this, we cordially agree with Dr. Hullah, that "as that which is not taught cannot be examined in, so that which it is known will not be examined in is not likely to be taught." This is a common sense deduction from every-day experience, and the moral is so evident that it ought not to be lost on the Committee of Council. Until the whole of the masters and mistresses are personally qualified to teach singing at sight, it would be comparatively easy to arrange for the performance of this part of their work by a competent deputy in the person of the village organist, or some other local musician; while in districts where this might be found to be impracticable, a system of periodic visits by a qualified choirmaster might easily be adopted on the plan which has been so successful in the church choral unions. And as with the lower grades of the population, so with the middle and upper. If parents demanded something equivalent to that which we hold

that the State, standing *in loco parentis* to the poor, ought to require in primary schools, we should soon see an improvement in the standard of music teaching in our secondary schools. The provision of education for the professional musician is now so much more adequate than it was a few years ago, the new Training School at South Kensington having been opened, in addition to the Royal Academy and the private schools, that the supply of teachers will very shortly equal the demand, and the main point is, therefore, to see that the demand is made. Fortunately, a very ready means of enabling parents to see what their children have really learnt is now available. By means of the local examinations in elementary music, conducted by Trinity College, London, at various centres in the United Kingdom—the establishment of which was, it may be added, suggested by the writer of this paper—any parent can, on payment of a nominal fee, secure a test of his child's progress, which is exactly adapted to the requirements of the case, and if fathers and mothers would inform principals of schools that they desire their sons and daughters to present themselves at the examinations, it would soon be found necessary to raise the standard of the teaching. Although examinations have their vices as well as their virtues, there would, at any rate, be some possibility of securing for all children the attainment of a certain grounding in musical knowledge, apart from mere instrumental or vocal performance, and teachers, knowing that their pupils would have to bear the strain, would soon find it to their interest—to put the matter on the lowest ground—to prepare them for it. While, then, we see around us a good deal of fictitious zeal for the art, which is but a poor apology for a thorough acquaintance with its principles, and for a pure taste, based upon something more real than the pleasurable sensation of listening to a Joachim or a Rubinstein, we have, at the same time, some ground of encouragement for the future, in the certainty that we are at last on the right track, and that musical education in England is at length being regarded from a higher point of view than in the past. In a word, we are, as a nation, more nearly approaching the point of sight from which music is looked upon as an art rather than as a mere accomplishment, desirable as a weapon in the hand of the feminine diplomatist, but of little further value.

Turning from these general thoughts to the work of the year, and looking first at our educational institutions, we find in the record of the Royal Academy a satisfactory proof no

only that it is doing its work well, but that the opening of the Kensington School has in no way affected it. The present number of students is reported to be 302, a higher number than has ever been reached since its establishment; while it is equally satisfactory to find that the number of scholarships and endowed prizes has also grown considerably of late years. The new Concert Hall in the Academy's House has been found as serviceable as we anticipated. The Kensington School, which is now in full working order, has 87 scholars; the total number of scholarships subscribed for is 92, of which 26 are the gifts of individuals, and 66 of counties or public bodies. The system of awarding these passes to a free musical education by competition has been adopted in every case, and the musical world will await with some interest an opportunity of forming an opinion, not only upon the abilities and gifts of the students, but upon the results of the system on which they are trained. The reference already made to the work of Trinity College, London, will have been sufficient to show that it has fulfilled the expectation raised in our article in the last issue of the *Companion*, by resolving itself into an educating body instead of contenting itself with the work of testing knowledge acquired elsewhere. During the past year the College has opened a house at Weymouth Street, Portland Place, and a definite curriculum has been arranged, including a system of evening classes as well as a course of study for resident and non-resident students during the day. The success which has attended the efforts of the Warden and Council has been most encouraging, and, as the published examination papers prove, the work required for the certificates and diplomas is thorough and genuine. The College of Organists has continued throughout the season its lectures and discussions, and the fact that Dr. Stainer, Dr. Bridge, Dr. Spark, Mr. Turpin, Mr. W. A. Barrett, and other eminent musicians, have taken part in the proceedings, is a sufficient proof that the College has the confidence of the profession. Its work of examining candidates for the Fellowship and Associateship has been carried forward with equally satisfactory results. In the same connection we have to note two very important steps as regards the position assigned to music at the Universities; the Senate of the University of London having resolved to act upon the powers which it already possessed of granting degrees in the faculty of music, while at Oxford and Cambridge, where these degrees have always been conferred after

examination, changes of the utmost significance have been made. At Oxford, a proposal of the Professor, the Rev. Sir F. A. Gore Ouseley, has been carried into effect, and the passing of a general examination in arts is to be a *sine quâ non* for admission to the purely musical examination; while at Cambridge the alterations made have been still more sweeping, as not only including the requirement of a previous Arts Examination, but also as involving additions to the already very severe musical tests. According to the new regulations, candidates for the degree of Bachelor in Music must first produce evidence of having satisfactorily passed one of the following examinations in literature and science:—(1.) The "Previous Examination" of the University, Parts I and II. (2.) The examination of the "Oxford and Cambridge Schools Examination Board." (3.) The University "Higher Local Examinations." (4.) The University "Senior Local Examinations." The last examination (No. 4) affords the readiest means of satisfying the University requirements. Candidates for a musical degree, announcing themselves as such, are allowed to enter this examination even though they may be over eighteen years of age. The next examination will be held in December, 1877. A musical candidate is required to satisfy the examiners—(1) in English grammar and arithmetic; (2) in two at least of the subjects in section B (English history, geography, a work of some standard English writer, and political economy), and in the English essay (3) in one of the subjects of sections C and D (namely, Latin, Greek, French, or German); and (4) in section E (Euclid and algebra). Previously, in both Universities, the rule had been that a candidate for the degree of Mus. Bac. should produce a testimonial from several members of the University that he was a fit person, as to moral character and general attainments, to be admitted to a degree; but henceforth, in England as at Dublin, he will be required to give the more material guarantee of his educational acquirements involved in the passing of an examination.

The subjects for the musical examinations at the University of London have not yet been announced, but in the meantime it is formally stated that all candidates for the degree of Bachelor of Music, will, with the candidates for all other degrees, be required to have passed the usual matriculation examinations. This undoubtedly is a step in the right direction from one point of view, but at the same time it is a question whether the elaborate, and, as some persons think, the unduly varied scheme of

the Syllabus at Burlington House will not, at any rate for some years to come, frighten away the applicants for the musical degree. For the investigation and discussion of subjects connected with the science and art of music, the "Musical Association" continues its useful career. The readers of papers during the session of 1877, included Mr. A. J. Ellis, F.R.S., on "The Sensitiveness of the Human Ear for Pitch and Change of Pitch of Notes in Music;" Mr. W. H. Cummings on "Purcell and his Family;" Mr. James Higgs on "J. S. Bach's Art of Fugue;" Dr. W. Pole, F.R.S., on "The Philosophy of Harmony;" Mr. W. A. Barrett on "Music in Cathedrals;" Mr. Stephen S. Stratton on "The Gymnastic Training of the Hand for performing on Keyed Instruments;" Mr. C. K. Salaman on "The English Language as a Language for Music;" and Mr. R. H. M. Bosanquet on "Some Points in the Harmony of Perfect Consonances, illustrated by the Enharmonic Harmonium." From this it will be seen that music as a science almost monopolized the attention of the members, and that music as an art received scanty consideration; while it must also be admitted that the subjects, although interesting to what we may term mathematical musicians, were scarcely calculated to attract either the ordinary professional musician or the amateur. Heaviness was in fact the main characteristic of the session, and with the exception of the papers of Messrs. Cummings, Barrett, and Salaman, there was far more of it than can be safely indulged in by a young Society which has its way to make. The fourth session will open with a new honorary secretary in the room of Mr. Salaman, who, to the loss of the Association, and to the regret of the members, has recently resigned the office, which he has so ably filled since the formation of the Association. Among other means of acquiring information on the music art, the lectures at Gresham College, by Professor Wylde, and at South Kensington, by Mr. Pauer, may be mentioned. The lectures in the City College might be made the starting point of a series of classes which would be gladly welcomed, and although the endowment of the old knight is utilized to better purpose in our own day than it was in the century after his death, when medical men, clergymen, and other persons utterly incapable of doing the work, were appointed to the music chair, it can scarcely be said that the citizens reap as much as they ought from the bequest, whether as regards music or the other subjects treated by the professors. The requirements of the founder are, it is true, complied with, although the

lecturer on music is mercifully excused from delivering himself in the Latin tongue, but this is a case where a still more liberal interpretation might be put upon the original intention with advantage. Lectures on music have also been included in the schemes of the Schools of Art at the Crystal Palace and at the Alexandra Palace, to the great benefit of the residents in their vicinity, while, as many of the addresses given at these various centres are fully reported in the musical journals from week to week, they reach a considerably enlarged audience, and it may be presumed give an impetus to further study. For this latter purpose the increasing publication of works on music and musicians may be viewed with satisfaction, among the most recent issues being an English reprint of the admirable lectures on Musical History, delivered by Dr. Ritter, the Professor of Music at Vassar College, in the United States of America. The publisher of this work, Mr. William Reeves, has also given us a volume of exceptional interest, consisting of translations of Schumann's Essays on musical topics, by Madame Raymond Ritter.

Turning from musical education in the class and the lecture room, to the concert room and the opera house, the Handel Festival first claims our notice. It was held on June 22nd, 25th, 27th, and 29th, under Sir Michael Costa's direction, with Mesdames Adelina Patti, Albani, Lemmens-Sherrington, Edith Wynne, Suter, and Patey, and Messrs. Rigby, Lloyd, Cummings, Foli, Henschel, and Santley, as chief vocalists. The scheme, in which there was no variation on previous years, included the public rehearsal, the *Messiah*, the *Israel*, and the selection; but greater variety than usual was imparted to the programme of the selection by the introduction of some of the old Saxon's least known works, including the Coronation Anthem, "The king shall rejoice," one of the set of four composed for the coronation of George II and Queen Caroline; the overture to *Athaliah*, and Josabeth's air from the same oratorio, "Tyrants would in impious throngs," with its pendant chorus; the air of Barak, "In the battle," from *Deborah;* a selection from *Joshua*, including the short march; the second organ concerto, played by Mr. Best; and two numbers from *Acis and Galatea*, the soprano air, "Heart, thou seat of soft delight," and the effective chorus "Galatea, dry thy tears." Each succeeding Festival naturally gains something from the fact that a large number of the singers and players have worked together before, in the same place, and upon the same scores, and there was no question among the critics as to

the advance which was noticeable in the performance, regarded as a whole. Exception was taken in several quarters, and not without reason, to the additions made by the conductor to the original text, not merely in the way of accompaniments, where there was the usual overloading of brass and percussion, but even in the orchestral items, and there can be little question that in this respect Handel, like King David, has suffered at the hands of his would-be improvers. The Wagner Festival, held under the vast dome of the Albert Hall, in the second and third weeks in May, was far less successful; in fact the inception of the idea of a concert room recital of the music of the much vaunted master was in itself a mistake. To attempt, by such a plan, to give an adequate impression of operas avowedly constructed on the principle that the music, *quâ* music, is subordinated to the poem and the stage accessories, or at any rate, that it is only a part of a whole which suffers by disintegration, is in itself an absurdity, and remembering that the continuity of the drama is also an essential part of the composer's theory, it was equally ridiculous to give mere excerpts from his works. These considerations being borne in mind, the result was in no wise a matter for surprise, and despite the frequent attendance of the Prince of Wales and other members of the Royal family, the performance of a remarkably efficient orchestra, and the prospect of seeing the hero of a thousand fights conducting his own music, the general effect was dispiriting. The Teutonic element in the audience at times made its influence felt, and stimulated the expression of a little enthusiasm, but the general feeling produced was one of weariness. A few good performances of the operas upon the stage of Covent Garden would have been far more satisfactory than these assorted programmes, which, severed from their context, were dull in the extreme. Herr Wagner scarcely shone as a conductor, and both the audience and the orchestra were nothing loth to exchange him for Herr Richter, to whose careful rehearsing the general excellence of the orchestral work was so largely due. Among the provincial festivals of the year, the Brighton Festival, conducted by Herr Kuhe, the meeting of the Three Choirs at Gloucester, and the Leeds Festival, have been the most prominent. The Gloucester Festival was mainly noticeable on account of the presence of the Bishop of the diocese, who had hitherto held aloof from the festivals, and for the introduction of a special service with orchestral accompaniment as the close of the week's music.

The only actual novelty in the scheme was a sacred work of small dimensions, a kyrie, by Mr. Luard-Selby. At Leeds, the "Fire King," a cantata by Mr. W. Austin, a native of the town, and Dr. G. A. Macfarren's oratorio *Joseph*, were the chief novelties. A concert, which almost approached the dignity of a festival, and was, at any rate, associated with considerable festivity, was given in the spring at Cambridge, by the University Musical Society, when the overture composed by Herr Joachim as a compliment to the University, and in recognition of the musical degree conferred upon him, was performed, together with a new work by Brahms, and other items of interest. On the day on which the performance took place, Dr. Joachim was received with enthusiasm in the Senate House, when he was presented by the public orator in a scholarly address, describing his "title to honour" both as an artist and a composer.

In the metropolis, among the most interesting concerts of the year, were those of the Bach Society, a body of amateurs which had won its reputation in the preceding year by its performance of the B minor Mass. Its programmes included at the first concert a repetition of the Mass, and at the second a miscellaneous selection, in which Bach's cantata on "Ein feste burg" was a welcome item, and Gade's cantata "Comala" was just as completely out of place. If the Society proves its fidelity to its title by producing the music of the Leipzig Cantor or kindred compositions, it will do a much needed work, but if it simply aims at producing such music as Gade's, it will speedily sink to the level of other societies, which have little reason to show for their existence beyond the personal enjoyment and improvement of their members. The performance of Handel's *Hercules* left its mark on Mr. Henry Leslie's season, although it was not included in the ordinary concerts of his choir. Twenty-one years have now passed away since this famous body of choralists was formed, and yet it may be said without exaggeration, that its popularity has increased rather than diminished, mainly, we believe, because it has been on the whole true to its mission of presenting the noblest unaccompanied choral works by ancient and modern composers. In the concerts of the Philharmonic Society (its sixty-fifth season), the only absolute novelty was a symphony, No. 2 in C major, by M. Silas, the other noteworthy works being Grieg's concerto for pianoforte in A minor; Barnett's descriptive work for orchestra, "The Lay of the Last Minstrel," written for the Liverpool Festival of 1874;

the third part of Schumann's music to *Faust*, heard for the first time in London; and Brahms' symphony in C minor, played for the first time by the Society. The absence of the music of English composers from the programmes gave little satisfaction, and it can scarcely be said that the season's work as a whole was up to the standard of interest which is expected from the oldest and most important of our English societies. In the future this defect ought to be remedied, and the fact that Sir Julius Benedict and Dr. Arthur Sullivan have been elected directors for the ensuing year, may be accepted as a guarantee that the members have arrived at the conclusion that the time has come for a more vigorous policy. When it is remembered that in days gone by the masterpieces of music were not simply performed, but that many of them were actually produced by the society, it is easy to understand that greater things are expected at its hands than have been supplied of late years. The Sydenham concerts from October, 1876, to May, 1877, included many works new to the Sydenham amateurs, and not a few new to England also. Among the most noteworthy were Liszt's Rhapsodie Hongroise, No. 2, with the Danish artist Fritz Hartvigson at the keyboard; Wagner's Centennial March, written for the Philadelphia Exhibition, and scarcely worthy of the Sydenham orchestra, and his "Death of Siegfried," from the Gotterdammerung; Gevaert's overture "Le Billet de Marguerite;" Hégar's concerto for violin; Saint Saens' "Marche Heroique;" Raff's overture to a drama from the Thirty Years' War "Ein feste burg;" Best's Festival Overture in C, written originally for the Norwich Festival of 1875; Liszt's symphonic poem "Mazeppa"; the overture to "Benedict and Beatrice," by Berlioz; Bazzini's overture to "Saul;" Benedict's overture "The Enchanted Forest," first produced at the Brighton Festival in the Spring; Mr. G. A. Osborne's "Festival Overture," written for the Brighton Festival of 1875; Bach's concerto in G, one of a set of six, for string orchestra; the overture to "Inez de Castro," by the late Alfred Holmes, a composer whose long residence in Paris had caused an almost total neglect of his works in this country; Joachim's "Elegiac Overture," written for performance at Cambridge; and a suite for pianoforte and orchestra, by Raff, introducing the old forms of the gavotte and musette now so popular. Among the special days of the season were three commemoration concerts, as they may be termed, given on the anniversaries of Beethoven's birth and death, and of Mendelssohn's birth, while one of the greatest of

living musicians, Herr Rubinstein, was honoured by a programme drawn exclusively from his works, and including his somewhat laboured "Ocean Symphony." Among the curiosities of the season was the performance of Verdi's quartet in E minor by the full strings of the orchestra, a proceeding announced as having the composer's consent, but which is too often adopted by Mr. Manns with the works of earlier masters, whose permission can no longer be asked, and by whom there is some presumption for thinking it would have been refused. This practice, transplanted from the French concert rooms, is very far removed from legitimate art, and although it pleases the popular ear, deserves little encouragement. To these evidences of the busy season at the Crystal Palace, for which, in other respects, so much honour is due to Mr. Manns and his band, must be added a note of the production in the theatre of an English version of *Alcestis*, with some very clever music by Mr. Henry Gadsby, a composer whose work for the church and the concert room has deservedly won for him much honour. Mr. Manns may be congratulated on maintaining these concerts, forming as they do, on the whole, the noblest representation of the executive branch of the art of which England can boast. At the Alexandra Palace, on its re-opening, Mr. Weist Hill gathered together an excellent band, and some admirable concerts were given every week during the season; but these, we regret to say, have been discontinued, the orchestra has been disbanded, and the conductor has resigned. As we are writing the first of a new series of orchestral Saturday concerts has been commenced at Muswell Hill, with Mr. Frederic Archer, the organist to the Palace, as the conductor. Among the other orchestral concerts of the year, those of the new Philharmonic Society were the most important, Dr. Wylde's direction being, as usual, marked by considerable enterprise. The British Orchestral Society gave no signs of vitality, but its conductor, Mr. Mount, directed the performances of the Royal Albert Hall Orchestral Society throughout the season. The Civil Service Musical Society, another amateur orchestra, also did some good work. The Sacred Harmonic Society did not leave the beaten track.

In the range of chamber music the number of concert-giving bodies remains the same. Professor Ella, at the Musical Union, imparted variety to his concerts by his numerous engagements of eminent foreign artists, his first violinists being Papini and Auer, while no fewer than five pianists appeared—Breitner,

Duvernoy, Saint-Saens, Jaell, and Joseph Wieniawski, the last, a Polish artist, making his first appearance. Several new works were given, and the fine style in which all the music was done—the *ensemble* playing being, as a rule, well nigh faultless—was due no less to the excellence of the performers than to the frequent rehearsals on which the Professor so wisely insists. The Monday Popular Concerts, as also the Saturday Popular Concerts, were maintained with unflagging energy by Mr. Arthur Chappell, his staff of artists remaining practically the same as in previous years. Among other concerts of chamber music those of Herr Franke deserve mention, if only for the fact that he produced a large number of comparatively new works which would otherwise have gone without a hearing. Mr. Charles Hallé's recitals were practically popular concerts on Mr. Chappell's model, for, with the assistance of Madame Norman Neruda, Herr Straus, and other players, the eminent pianist gave several concerted works on each afternoon, in addition to his own always welcome solos. Among the artists who appeared, or rather reappeared, at the keyboard during the London season, was Madame Arabella Goddard, who has returned to her native land after a long tour, which has included Australia and New Zealand within its limits.

In the operatic seasons at Covent Garden and Her Majesty's there was but little worthy of note. At the former house Mr. Gye produced Donizetti's *Favorita*, *Don Pasquale*, *L'Elisir d'Amore*, *Lucia di Lammermoor*, *Linda di Chamounix*, and *La Figlia del Reggimento;* Verdi's *Il Trovatore*, *Traviata*, *Rigoletto*, *Il Ballo in Maschera*, and *Aïda;* Rossini's *Guglielmo Tell* and *Le Barbière;* Bellini's *Sonnambula* and *I Puritani;* Auber's *Fra Diavolo;* Meyerbeer's *Dinorah*, *L'Etoile du Nord*, and *Les Huguenots;* Mozart's *Don Giovanni* and *Il Flauto Magico:* Flotow's *Marta;* Wagner's *Lohengrin*, *Tannhäuser*, and *Flying Dutchman;* Gounod's *Faust* and *Romeo and Juliet;* Ambroise Thomas's *Hamlet;* Otto Nicolai's *Falstaff;* and the Duke of Saxe Coburg's *Santa Chiara;* the last a worthless *libretto* with inferior music, which proved a complete *fiasco* on its first hearing. At Her Majesty's, the great house in the Haymarket, the illness of Mdlle. Tietjens threw a cloud over the prospects of the season, and prevented the revival of the classic operas, which had been anxiously anticipated. The Director was, however, fortunate enough to secure, towards the close of the summer, a new singer, Mdlle. Etelka Gerster, who made a great impression, and helped

to sustain the fortunes of the house. Of novelty there was none; and the promise of Wagner's *Flying Dutchman* was not fulfilled. The erection of Mr. Mapleson's "National Opera House" on the Embankment has come to a complete standstill for lack of funds, and judging from the correspondence on the subject in the newspapers, it seems doubtful whether it will ever be completed. Italian opera has thus rested, as of yore, in the hands of the rival *impresarios*, and it can scarcely be said that its prospects, from an art point of view, seem to be improving. With opera in English the outlook is far more hopeful, and Mr. Carl Rosa, after another successful tour throughout the provinces and in Ireland, promises London amateurs another season. At the Crystal Palace and the Alexandra Palace there have been some brief seasons of opera, but these call for no remark.

A word may be said, in conclusion, on the work of the year as far as church music is concerned. Here, as elsewhere, there has been activity enough and to spare; but it is questionable whether the creation of an artistic, and at the same time congregational, worship-song is proceeding as satisfactorily as could be wished, either as regards the provision of suitable music, or the capacity for its adequate rendering. Great festivals we have in abundance, but they are festivals of the choirs and not of the people; and, while we hear of musical education and of choral societies on all sides, this seems to be a fact requiring explanation. The Gregorian enthusiast, on the one side, is so inconsistent, that he dresses up his old tones until their character is almost obliterated; while the composer of the modern school seems to be exclusively occupied in writing for the choir. Whether this is the end to be aimed at in a church which makes the congregational theory of worship prominent in all its formularies, is a question worthy of consideration by musicians. The use of the orchestra at special services at St. Paul's Cathedral has been continued, Sullivan's "In Memoriam" overture being included in the scheme on one occasion; while, at Westminster Abbey, a service with Mendelssohn's *Lobgesang* formed a fitting prelude to the opening of the Caxton Exhibition.

In the organ world, it is satisfactory to find that the noble capacity of the instrument for solo use is being gradually more and more recognised; and the recitals at the Colston Hall, Bristol, by Mr. Riseley; at the Town Hall, Leeds, by Dr. Spark; at the Royal Albert Hall, London, at the Albert Hall,

Newport, Monmouth, at the Bow and Bromley Institute, by many eminent organists, and more recently at the New Town Hall of Manchester, by Mr. J. Kendrick Pyne, the cathedral organist, prove beyond a doubt that such performances have a great attraction for the public; while as a form of entertainment for the working classes they are, especially when varied by a little vocal music, simply invaluable. The experience of the Committee at the Bow and Bromley Institute, where the organ was erected mainly to supply the inhabitants of the district with Saturday evening entertainments, proves that the people have far higher tastes than are so often attributed to them; and it is no uncommon spectacle to see one of these East London audiences listening with an amount of attention and appreciation to a *bonâ fide* organ work by Bach, which might be imitated with advantage by more highly cultured auditors in the great halls at the West End of the town. Public libraries are now provided at the ratepayers' expense, with benefits which are unquestionable, and the only obstacle to their extension has happily been removed by an Act of Parliament, passed during the last session, to transfer the final vote for or against the rate from the meeting, which is often packed, to the whole body of the ratepayers: would it not be an equally justifiable use of a few thousand pounds to provide an organ in the large vestry halls from the same source? The outlay would be infinitesimal when spread over the large area of a civil parish, and the benefit would be incalculable, not only as a means of bringing good music to the doors of the people, but from a social point of view.

We cannot leave our subject without paying a tribute to the great musicians whose loss we have to lament during the past year. Foremost among them we must place Teresa Tietjens, one of the greatest of operatic artists, a worthy successor of Pasta, whose triumphs were always legitimate, and whose personal virtues were as great as her professional ability; George Frederick Anderson, the veteran pianist who had served as conductor of the Royal private band under the Fourth George, the Fourth William, and our own Queen; Julius Otto, the writer of the part-songs which form the choicest numbers in the German choral books; William Hobbs, the old "Gentleman of the Chapel Royal," who, like Mr. Anderson, was a link with the musicians of the past; and Julius Rietz, the Dresden capellmeister.

ENGLISH PHILANTHROPY IN 1877.

THE attempt to assess the annual income of the thousand and one charities or charitable institutions which have their centre in the metropolis has been made so often, and with such scanty results, that it is practically labour in vain; but while the exact amount is thus difficult to arrive at, its magnitude is unquestionable, and it becomes therefore a matter of interest to note the direction in which public benevolence shapes its course or in which, from some cause or other, it ceases to flow. In such a review of the history of philanthropy for any particular period, there is always some indication of movement, and in the year which is now drawing to a close it is by no means difficult to discern. There has been, and happily there still is, a growing desire and intention on the part of those who pour their gifts into the public almonry to endeavour, as far as possible, to discharge, not only the duty of giving, but also the scarcely less important duty of seeing that their gifts are properly applied, and although in some cases it is impossible for the donors to a large number of institutions to do this latter work personally, there is a far greater disposition than there was even in the recent past to endeavour to secure efficient supervision by a properly elected committee. It is no libel upon the management of our societies and institutions to say that this is far from a needless precaution. The history of public bodies, even when they are elected by constituencies which might be supposed from mere personal interest to be likely to keep a watchful eye upon their expenditure, proves only too conclusively that a dishonest motive is not the only secret of that carelessness of management which enables unconscientious persons to commit frauds, and if this is true of municipal corporations, vestries, and other similar bodies, it is still more likely to be true in the case of benevolent institutions, in which the money dealt with is given by a large multitude of persons whose only community of interest lies in that desire to do good to their fellows, which, strangely enough, marks them out as a more ready prey for the unscrupulous. There is, in fact, in the management of funds drawn chiefly from voluntary subscriptions and donations, an additional risk over and above that which is inseparable from the task of spending money for other people, and it arises from the fact that in the governing committee or council there is unlikely to be any section answering to the "opposition," whose action is so healthy in political and municipal affairs. In many

cases, until within recent years, and even now in no inconsiderable number of instances, the ordering of the business of charitable institutions has practically rested with a small circle of the subscribers who have, in their turn, been only too ready to transfer the work, although they could not shift the responsibility to other hands, and thus large incomes have been disposed of virtually at the discretion of one or two individuals. Without wishing to imply for a moment that this has, as a general rule, been fruitful of evil, there is only too much cause for the belief that the common adoption of the system has made it possible for dishonest persons to trade upon the nobler impulses of the public by leading men of wealth to listen too readily to appeals without any thorough inquiry as to their genuineness or merit. As a proof that this is by no means a groundless assertion, it is sufficient to note that Lord Shaftesbury has of late found it needful publicly to announce the withdrawal of his sanction and support from several institutions, while, in the *Times* newspaper, a letter from Lord Cairns, Lord Hatherley, and other well known philanthropists, has been published as a caution to the unwary. Thus, while there are many institutions existing which are defective but not absolutely fraudulent, there are others in which it is only due to the cunning of their promoters and the unsatisfactory state of the law, that convictions cannot be obtained against them. In one case which came under the notice of the writer of the present paper a collector made an application from house to house in a well known suburb on behalf of a Mission of which it is sufficient to say that it finds no place in *Low's Handbook to the Charities of London*, a relative though of course not a positive proof of its true character; and when one of the residents requested to be supplied with a balance-sheet as a means of enabling him to judge whether the institution was worthy of assistance, he received an angry letter from the so-called secretary, couched in anything but pure English, in which he was informed that, "It having come to the knowledge of the committee that a conspiracy to injure the association, by spreading malicious and untrue statements concerning it, is concocted by a set of meddlers, they will not issue any report to non-subscribers." In other words, the promoters solicited subscriptions while they refused the information necessary to enable any person to judge whether the appeal was justifiable. In several cases prosecutions have been instituted in the police-courts, and the culprits have only

narrowly escaped imprisonment, and yet they still continue to solicit money in aid of their so-called societies, and, so great is the readiness of the benevolent to believe in the reality of well-described distress, that they reap a rich harvest, amounting, if we may accept the figures in the last annual report of the Charity Organization Society, to 250,000*l.* a year. How much, or rather how little, of this money finds its way to the object for which it was collected, is a question on which it would be useless to speculate, but it is to be feared that it is for the most part very little. As an illustration of the ease with which such persons can literally rob the benevolent, it is said that a few years ago a society which professed to provide bibles and clothing for the poor, and which had collected about 1,000*l.*, while it had only distributed 10*l.* worth of bibles and only 2*l.* in clothes, escaped simply because it did not come within the purview of the criminal law, and it would, unfortunately, only be too easy to cite similar cases. These facts, then, render it emphatically necessary that a very vigilant control should be maintained over all funds contributed for the public good, and it is eminently satisfactory that we have not only the London Charity Organization Society, but an international system by which frauds can very easily be detected and their perpetrators punished. There are now 284 societies in existence in Europe, America, and the colonies, with which the London Society is in communication, and experience has proved that the machinery thus provided can be utilized with the very best results. Cases of imposition on the part of foreigners coming to England, or writing begging letters from abroad, have been discovered and exposed; husbands who have deserted their wives and gone abroad have been traced and induced to return; and men who have come to England and have left their families neglected abroad, have been persuaded to remit money for their support. One case of this kind, which is well substantiated, may be quoted to show that this class of work has really practical results. A German who had lived for many years in London, and who had married an Englishwoman, deserted his wife and family. He was reported to have gone to the village of Horweiller, in Rhenish Prussia, where he was supposed to have a brother. Inquiries at Horweiller showed that the man had not been there for twenty years, and had no relation there. It was, however, believed that he had a brother at Sprendlingen, in the district of Alzey. This brother was discovered, and stated that he believed his brother was at

Schifferstadt, in Bavaria. Subsequent inquiries at Schifferstadt showed that he was at Speyer. He was accordingly summoned before the Burgomaster at Speyer, and the statement of the Charity Organization Society read over to him; whereupon, under the influence of the authorities, he agreed to return to his wife and family.

But while the organization of charity, as it is perhaps somewhat clumsily termed, is thus year by year receiving increased attention amongst us, it is satisfactory to find that charity itself is still fulfilling its noble mission, and that there is no disposition to withhold support from really deserving institutions because of the frauds detected in a few cases. The history of 1876, on the contrary, has a brighter roll of deeds of mercy to unfold than has fallen to the lot of any recent year since the Crimean War. At home and abroad help has been given in the exceptional distress which the year has brought forth; and as we are writing there is no sign of any diminution in the measure of relief where it is most needed. Looking first at the exceptional appeals of the year, which test so completely the elasticity of public philanthropy, we find that the fund for the relief of the sufferers by the Indian famine has risen to an amount never, we believe, exceeded in any similar case. The Lord Mayor has, up to the date of writing, received no less than 455,000*l.* for this most needful work of humanity, while the Society for the Propagation of the Gospel has received upwards of 14,000*l.*, and the Church Missionary Society upwards of 5.000*l.*; indeed, it may be said with truth that the nation has never responded more readily or more liberally to a cry for aid. Scarcely inferior in importance has been the national effort to relieve the suffering arising from the war between Russia and Turkey, and to the honour of England it must be recorded that help has been given without distinction of race or creed, notwithstanding some ill-considered attempts to reproduce in this charitable work at home some of the animosities and rivalries of the battle-field abroad. At the head of the relief organizations has been the "British National Society for Aid to the Sick and Wounded in War," originated during the Franco-Prussian War, which at the close of that campaign found itself with a balance of 73,212*l.* in hand. From this large sum 20,000*l.* was voted by the Committee for expenditure at the commencement of the revolt in the Turkish provinces, and some of the most experienced of the society's agents have been entrusted with its outlay. But in addition to this central

machinery, other schemes have been set afloat and have been worked with considerable success. Of these we append a list with a statement (except in two cases where the details could not be supplied in time) of the amounts received:—

	£
British National Society (out of old balance)	20,000
Viscountess Strangford's Fund	
Stafford House Fund	30,000
Russian Soldiers' Relief Fund	3,573
Sick and Wounded Russian Soldiers' Fund	3,865
Ladies' Committee at Constantinople	450
Servian Relief Fund	84
Bosnian and Herzegovinian Fugitives' and Orphans' Relief Fund	22,422
Adrianople British Committee for Fugitives	

From this list (and it does not include 28,892*l.* raised earlier in the year by Lady Strangford for the relief of the Bulgarians, or 17,250*l.* raised at the Mansion House for the relief of the sufferers in Bosnia, Bulgaria, and Herzegovina, before Russia declared war), it will be evident that while recognizing the prior claims of their fellow subjects in India Englishmen have not been unmindful of the sufferers from the dread war elsewhere, and there can be little doubt that, apart from the relief which this large total of subscriptions represents, its moral effect will be scarcely less important upon the nations chiefly concerned, as showing that England is not simply given to preaching and to counselling peace, but that she lends a ready hand to relieve the distress of those who are in too many cases only innocent agents in the hands of their rulers. Nor does this exhaust the exceptional funds of the year. For the sufferers by the inundation in the Pontypridd coal mine, whose case was for so many days the subject of an amount of interest seldom excited by any purely domestic event in this country, a sum of 4,445*l.* was received by the Lord Mayor, and several other objects have been assisted in the same way.

Turning from the special to the normal features of the year's philanthropy, the London Hospital Sunday Fund first claims our attention. This annual collection has now been made five times, and it may be interesting to give the sums received in each year:—

	£
1873	27,700
1874	29,936
1875	26,396
1876	27,042
1877	26,600

From these figures it will be seen that the collection in the second year was the largest, and that for the past year almost the lowest; but even with these variations the amount raised is

very considerable, and, remembering that its collection involves the slightest possible expense (only about 900*l.*, or less than 3½ per cent. on the receipts), we can only attribute the attempt which has been made by a medical paper to describe the movement as a failure to some ill-feeling possibly arising out of discontent with the apportionment of the funds by the Distribution Committee. As a general rule, the basis of distribution has given the utmost satisfaction, and it is no slight addition to the valuable services which the Committee of the Fund have rendered, that they have practically instituted an examination into the financial management of the institutions assisted before the grants are voted. As a proof that this is no mere formal process, it may be noted that during the past year one hospital, that for Diseases of the Throat, in Golden Square, has been refused its grant on the motion of Sir Sydney Waterlow, on the ground that a Committee of Investigation has been inquiring into its management, and that its verdict has not been altogether satisfactory. The following table will show the plan on which the fund has been distributed, and the amounts voted in 1876 and 1877 :—

Class of Institution.	1876.			1877.		
	£	*s.*	*d.*	£	*s.*	*d.*
To 17 General Hospitals	14,308	13	7	12,968	12	6
,, 4 Chest Hospitals	1,933	16	1	1,795	3	8
,, 8 Children's Hospitals	1,626	3	9	1,593	11	8
,, 4 Lying-in Hospitals	355	16	8	309	16	8
,, 5 Hospitals for Women	772	0	0	1,009	4	4
,, 21 Other Special Hospitals	2,457	17	7	2,499	9	8
,, 8 Convalescent Institutions	1,302	4	8	1,317	6	8
,, 3 Cottage Hospitals	85	3	4	(4) 111	3	4
,, 45 Dispensaries	2,275	16	0	(43) 2,223	0	0
,, 4 Institutions	752	10	0	926	5	0
Total ... ... £	25,870	1	8	24,753	13	6

Nearly all the awards for 1877, as will be seen from the above table, which has been compiled from the accounts of the Distribution Committee, are slightly below those of the preceding year, in consequence of an increasing number of applicants to participate, and a slight decrease in the amounts to be distributed. The Distribution Committee, it may be added, consisted of the Lord Mayor, Alderman Sir Sydney Waterlow, Bart., M.P., Lord Ashley, Mr. Thomson Hankey, M.P., Mr. S. Morley, M.P., Alderman W. McArthur, M.P., the Rev. Jervoise Smith, Dr. W. S. Saunders, Mr. G. W. Callender, and Mr. Thomas Turner. The small proportion of the total collection awarded to the

dispensaries is still a matter of criticism in certain quarters, and there can be little doubt that it has tended to reduce the collections on Hospital Sunday in districts at a distance from the great hospitals, where the dispensary offers almost the only available means of medical relief. The collection on what is termed Hospital Saturday is still kept up in the metropolis. It has produced annually about 4,500*l.*, but the outlay involved in its collection is so large that it would seem to be advisable, if the effort is to be repeated every year, to place the collection under the management of the Hospital Sunday Fund Committee, whose outlay is so infinitesimal.

In connection with hospital management it is satisfactory to note that the cottage hospitals, which are so invaluable in country districts, and might with advantage be extended to the London suburbs, where they could, perhaps, be affiliated to the existing dispensaries, are increasing in number and efficiency. As a manual for the information of those who desire to erect or maintain them, the interesting and practical work issued during the year by Mr. H. C. Burdett, Secretary of the Seamen's Hospital, may be referred to with advantage. So general have these institutions become, that since the first of them was opened in 1855 at Cranleigh, by Mr. Napper, the number has increased by an average of thirteen new hospitals in each year, and now there are only five counties in England which do not possess them. As they can be managed with the utmost economy, and form almost the only method of segregating the sick in poor populations, the importance of the growth of the movement is so obvious that it need not be insisted upon. In the same direction the extension of the Provident Dispensary system is to be welcomed, affording, as it does, the very best means of providing the poor with medical attendance and medicines at their homes, and at the same time of enabling them to feel that they are obtaining for themselves the aid which they require instead of being dependent for it upon the benevolence of others. As an effort of this kind on a large scale the Medical County Club in Suffolk may be noted as one of the happiest solutions of the question of securing medical assistance for the poor. The scheme has been for a long time in process of incubation, and it is now sufficiently advanced to claim attention, and, it may be hoped, to lead to its adoption in other parts of the country. Its promoters have worked upon the assumption that poor law medical relief is a thing to be avoided, on the ground that "the first stepping-

stone to pauperism is an application for the doctor," and even those who decline to admit this premiss, or who will argue that, if it is so, there is no reason why it should be so, will allow that it is very desirable to make the working man independent in this important particular, while it is patent that if the sick poor feel that they can call in the doctor without either losing their self-respect or paying his bill, except on a *pro ratâ* scale which they would scarcely feel, there will be a hope of considerable improve ment in the general state of the public health. The Medical Club has, then, been set on foot with this object, and it is in effect the application of the co-operative principle in a new direction. The estimate made by Sir Edward Kerrison and those who have given the subject much earnest thought, is that the labourer will, by joining the club, be able to look with certainty to the fact that, however large his family, all ordinary doctor's expenses, except for confinements, will never exceed 14*s.* a year. The intention is to arrange for the management of the club by stewards in each parish, who are to receive the members' payments, and to communicate, through the secretary of the district union, with the central organization in the chief city of the county.

As an inseparable adjunct to the work of the hospital and the dispensary, if either the one or the other is to be carried out with the fullest advantage to the patient, is the employment of the trained nurse, who may be said to be a comparatively recent creation. After being left in a large number of our hospitals to women who literally learnt how to nurse by making the attempt often for the first time, nursing has, under the auspices of the Nightingale Fund and, more recently, of the London Diocesan Deaconess Institution, and of the St. John's House and Sisterhood, become a science to which ladies of culture and education have devoted themselves with the best results. The main object of these institutions is, however, to train and supply hospital nurses, and they still left unprovided for the vast work of nursing the poor in their own homes. Up to the year 1875 no organization existed in the metropolis to furnish or train nurses for this purpose, but in that year the "Metropolitan and National Association for providing Trained Nurses for the Sick Poor" commenced its labours, and it now has district homes in the north and east of London in addition to the central home and office, at which nurses can be obtained. The parochial nurse is thus becoming a recognised officer in

many London districts, and there is probably no object for which subscriptions can be more easily obtained, as her services are, of course, given without reference to the religious views of those who need them. In connection with the St. John's House another very useful and long needed duty has been undertaken, in the training of what are commonly termed "Monthly Nurses." To accomplish this end a "Maternity Home" has just been opened at Brompton, where women will be educated for this part of the nurse's duty. Thus, as far as increased efforts to provide for the care of the sick are concerned, it must be admitted that there is much in the present state of affairs which is eminently encouraging, for in nearly all the cases which we have cited the aim is not only to alleviate distress, but to raise instead of pauperising those who are assisted.

With the same wholesome object the work of sanitary reform, which owes so much to the earlier attempts to provide model lodging-houses and artisans' dwellings, is being carried forward, and although the erection of homes for the working classes is no longer left to charity, but has become a sound commercial investment, it is still well worthy of the attention of the philanthropist, by whose efforts it was originated. Remembering that the late Prince Consort gave much thought to the subject which, with the prescience he so often showed, His Royal Highness saw would acquire the prominence it has now obtained, it is interesting to note that the latest addition to the workmen's dwellings in London has, by Her Majesty's command, received the title of the Victoria Dwellings. As a worthy pendant to this form of practical philanthropy, we may mention the efforts to establish "Coffee Public-houses" now being made at the east-end of London, and promoted on a wider basis by the "Coffee Public-houses Association," of which Mr. Cowper-Temple, M.P., is the chairman. These houses, like the workmen's dwellings, form, it has been proved, an absolutely remunerative investment for capital; but it is none the less a work of the truest charity to erect them, and thus to put the working classes in the way of helping themselves. The National Penny Bank, a fruit of the Provident Knowledge Society, is another illustration of the recent efforts of philanthropists in the same field, and this, too, will its promoters anticipate, be self-supporting and remunerative.

TABLE OF ALL THE PUBLIC GENERAL ACTS

PASSED IN THE FOURTH SESSION OF THE TWENTY-FIRST PARLIAMENT OF GREAT BRITAIN AND IRELAND,

40 AND 41 VICTORIÆ. A.D. 1877.

(The Acts are given in the order in which they were passed, the number denoting the chapter. An Abstract of those Acts distinguished by an asterisk is given in the pages following this table, which contain a classified epitome of the more important statutes passed during the year.)

1. An Act to apply the sum of £350,000, out of the Consolidated Fund, to the service of the year ending on the 31st of March, 1877.

2. An Act to provide for the preparation, issue, and payment of Treasury Bills, and make further provision respecting Exchequer Bills.

(Applies 29 & 30 Vict. c. 25; Exchequer Bills.
,, 38 & 39 Vict. c. 45; Sinking Fund.
,, sections 8—11 of 24 & 25 Vict. c. 98; Forgery, &c.
Repeals section 12 of 29 & 30 Vict. c. 25; Exchequer Bills.)

3. An Act to amend the Publicans' Certificates (Scotland) Act, 1876.

(Amends 39 & 40 Vict. c. 26.)

4. An Act to amend the Law relating to the granting of Licences for the sale of Beer, Ale, and Porter in Ireland.

(Applies 27 & 28 Vict. c. 35, and 34 & 35 Vict. c. 111; Beerhouses (Ireland).
,, 37 & 38 Vict. c. 69; Licensing (Ireland).
Amends 27 & 28 Vict. c. 35; Beerhouses (Ireland).)

5. An Act to raise the sum of £700,000 by Exchequer Bills or Exchequer Bonds for the service of the year ending on the 31st of March, 1877.

(Applies and extends 29 & 30 Vict. cap. 25.)

6. An Act to apply certain sums (£9,641,960 6*s.* 9*d.*) out of the Consolidated Fund to the service of the years ending the 31st of March, 1876, 1877, and 1878.

7. An Act for punishing Mutiny and Desertion, and for the better payment of the Army and their Quarters.

(Applies 26 & 27 Vict. c. 57; Regimental Debts.
Amends 33 & 34 Vict. c. 67; Army Enlistment.)

8. An Act for the Regulation of Her Majesty's Royal Marine Forces while on shore.

(Repeals part of 10 & 11 Vict., c. 63; Marines Enlistment.)

*9. An Act for amending the Supreme Court of Judicature Acts, 1873 and 1875.

(Amends 36 & 37 Vict. c. 66, and 38 & 39 Vict. c. 77.
Provides for appointment of additional Judges.)

10. An Act to authorise the continuance of the Charge heretofore payable on certain Offices, Annuities, Pensions, and Allowances.

(Continues Land Tax Duties on Offices and Pensions, notwithstanding certain repeals effected by 39 & 40 Vict. c. 16.)

11. An Act to make provision with respect to Judicial proceedings in certain cases relating to Rating.

(Enables Judges to act in certain cases relating to Rates.)

12. An Act to apply the sum of £5,900,000 out of the Consolidated Fund to the service of the year ending the 31st of March, 1878.

13. An Act to grant certain Duties of Customs and Inland Revenue,

and to amend the Laws relating to Customs, Inland Revenue, and Savings Banks.

(Customs:—
Continues Duties on Tea.
Applies provisions in 39 & 40 Vict. c. 36, to shipment of Export Goods.
Extends time for actions against Officers under 39 & 40 Vict. c. 36.
Taxes:—
Continues Income Tax and Inhabited House Duties; and applies provisions of existing Acts.
Revives and applies 5 & 6 Vict. c. 35, s. 32, and 23 & 24 Vict. c. 14, s. 6, which were repealed by 39 & 40 Vict. c. 16.
Excise:—
Provides for appeals from decisions of Justices in Ireland under 7 & 8 Geo. 4, c. 53.
Alters reference (for the purpose of the Statute Law Revision) in section 11 of 18 & 19 Vict. c. 38.
Stamps:—
Provides for transmission and custody of inventories in Scotland in conformity with 23 & 24 Vict. c. 80.
Abolishes duties under 33 & 34 Vict. c. 97, on appointments to benefices.
Savings Banks:—
Provides for payment into the Exchequer of surplus interest from Post Office Savings Bank Fund, Fund for Banks for Savings, and Fund for Friendly Societies.)

14. An Act for the Amendment of the Law of Evidence in certain cases of Misdemeanour.

(Provides for reception of the evidence of defendant and wife or husband of defendant in certain trials for misdemeanour.)

15. An Act to amend the Public Libraries Act (Ireland), 1855.

(Amends 18 & 19 Vict. c. 40, and extends its powers to Schools of Music.
Applies provisions of Companies Clauses Acts, 1845, with respect to borrowing.)

16. An Act to facilitate the removal of Wrecks obstructing Navigation.

(Applies Merchant Shipping Act, 17 & 18 Vict. c. 104.)

*17. An Act to amend the Law relating to the Division of Courts of Quarter Sessions in Boroughs.

(Amends 7 Will. 4, and 1 Vict. c. 19.)

18. An Act to consolidate and amend the Acts relating to Leases and Sales of Settled Estates.

(Repeals 19 & 20 Vict. c. 120; } Leases and Sales of Settled Estates.
,, 21 & 22 Vict. c. 77; }
,, 27 & 28 Vict. c. 45; }
,, 37 & 38 Vict. c. 33; }
,, 39 & 40 Vict. c. 30; }
Provides for entails created under 34 & 35 Hen. 8, c. 20, or under any other Act of Parliament.)

19. An Act to Grant Money for the purpose of Loans by the Public Works Loan Commissioners, and authorise those Commissioners to compound a loan and interest, and amend the Public Works Loans Act, 1875.

(Amends 38 & 39 Vict. c. 89; Public Works Loans.)

20. An Act to fix the Salaries of the Members of the Royal Irish Constabulary, and to amend the eleventh section of the Constabulary (Ireland) Amendment Act, 1870.

(Amends 33 & 34 Vict. c. 83; Constabulary (Ireland) Amendment Act, 1870.
,, 38 & 39 Vict. c. 44; Royal Irish Constabulary.)

*21. An Act to amend the Law relating to Prisons in England.

(Amends (and in part repeals) 28 & 29 Vict. c. 126; Prisons Act, 1865.
Repeals section 7 of 5 & 6 Will. 4, c. 38; Prisons Act, 1835.
Applies Act to Worcester Prison as constituted by 30 & 31 Vict. c. 23.
,, 22 Vict. c. 26; Superannuation Act, 1859.
,, 38 & 39 Vict. c. 83, Local Loans Act, 1875, and 38 & 39 Vic. c. 89, Public Works Loans Act, 1875.
,, Lands Clauses Acts, 1845, 1860, and 1869.

Applies 31 & 32 Vict. c. 37; Documentary Evidence Act, 1868.
,, 17 & 18 Vict. c. 125; Common Law Procedure Act, 1854.
Savings as to Industrial and Reformatory Schools under Acts of 1866.)

22. An Act to amend the General Police and Improvement (Scotland) Act, 1862.

(Amends 25 & 26 Vict. c. 101.)

23. An Act to make better provision respecting Fortifications, Works, Buildings, and Land situate in a Colony, and held for the defence of the Colony.

(Provides for the transfer of Colonial Fortifications to the Governor of Colony.)

24. An Act to apply the sum £20,000,000 out of the Consolidated Fund to the service of the year ending the 31st of March, 1878.

25. An Act for regulating the Examination of persons applying to be admitted Solicitors of the Supreme Court of Judicature in England, and for otherwise amending the Law relating to Solicitors.

(Amends, and repeals in part, 6 & 7 Vict. c. 73; Solicitors Act, 1843.
,, ,, ,, 23 & 24 Vict. c. 127; Solicitors Act, 1860.
Repeals section 20 of 33 & 34 Vict. c. 28; Attorneys and Solicitors Act, 1870.
Amends 36 & 37 Vict. c. 66, and 38 & 39 Vict. c. 77; Judicature Acts, 1873 and 1875.
Vests powers relating to Examinations in the Incorporated Law Society.)

*26. An Act to amend the Companies Acts of 1862 and 1867.

(Amends 25 & 26 Vict. c. 89, and 30 & 31 Vict. c. 131).

27. An Act to grant Money for the purposes of Loans by the Commissioners of Public Works in Ireland, and to remit certain Loans, and to amend the Law relating to Loans for public purposes by the Commissioners of Public Works in Ireland.

(Repeals in part 1 & 2 Geo. 4, c. 33, s. 4;
,, ,, 6 Geo. 4, c. 54;
,, ,, 6 & 7 Will. 4, c. 116, s. 93; } Lunatic Asylums.
,, ,, 8 & 9 Vict. c. 107;
,, ,, 18 & 19 Vict. c. 109, ss. 1-6;
,, ,, 7 Geo. 4, c. 74, s. 17;
,, ,, 6 & 7 Will. 4, c. 116, s. 124; } Prisons.
,, ,, 6 & 7 Will. 4, c. 116, ss. 61, 62; Post Roads.
,, ,, 16 & 17 Vict. c. 136, ss. 11, 12; Harbours, &c.
,, ,, 19 & 20 Vict. c. 62, ss. 29, 30; Navigations.
Amends 1 & 2 Vict. c. 116; County Treasurers (Ireland), as to Lunatic Asylums.
,, 10 & 11 Vict. c. 32;
,, 29 & 20 Vict. c. 40; } Landed Property Improvement (Ireland).
,, 38 & 39 Vict. c. 82; National School Teachers (Ireland).)

*28. An Act to amend the Laws relating to Game in Scotland.

(Amends the following Acts relating to the Preservation of Game in Scotland:—Parl., Scotland, 1587, c. 43, Parl., Scotland, 1621, c. 31, Parl., Scotland, 1707, c. 91, 13 Geo. 3, c. 54, 39 Geo. 3, c. 34, 9 Geo. 4, c. 69, 1 & 2 Will. 4, c. 32, 2 & 3 Will. 4, c. 68, 7 & 8 Vict. c. 29, 25 & 26 Vict. c. 114, 11 & 12 Vict. c. 30, 23 & 24 Vict. c. 90, 24 & 25 Vict. c. 91.)

29. An Act for the protection of the Property of Married Women in Scotland.

(Saves rights conferred by Conjugal Rights (Scotland) Acts, 24 & 25 Vict. c. 86, and 37 & 38 Vict. c. 31.)

30. An Act for enabling a further Sum to be raised for the purposes of the Telegraph Acts, 1868 to 1870.

(Authorises the raising of £500,000 for purposes of the Telegraph Acts, 31 & 32 Vict. c. 110, 32 & 33 Vict. c. 73, and 33 & 34 Vict. c. 88.
Applies 29 and 30 Vict. c. 39; Exchequer and Audit Departments.)

31. An Act to give further facilities to Landowners of limited interests in England and Wales and Ireland to charge their estates with the expenses of constructing Reservoirs for the storage of Water, and other similar purposes.

(Incorporates Act with Improvement of Land Act, 27 & 28 Vict. c. 114, and Waterworks Clauses Act, 26 & 27 Vict. c. 93.)

32. An Act to remit certain Loans formerly made out of the Consolidated Fund or other Public Revenue of the United Kingdom.
(Extinguishes debts due to Consolidated Fund in respect of advances made under the following enactments:—
1 & 2 Geo. 4, c. 115, s. 8; Bankruptcy Court, London.
5 & 6 Will. 4, c. 76, s. 20; Revising Burgess List, Carnarvon.
33 Geo. 3, c. 104, 45 Geo. 3, c. 85, 51 Geo. 3, c. 117, and 56 Geo. 3, c. 135; Crinan Canal.
56 Geo. 3, c. 83, 58 Geo. 3, c. 44, 59 Geo. 3, c. 90, and 1 & 2 Geo. 4, c. 127; Glasgow and Carlisle Roads.
54 Geo. 3, c. 138; Queensferry (Firth of Forth).
53 Geo. 3, c. 124; Fife and Midlothian Ferries.
9 Geo. 4, c. 91; Welland Canal, Canada.
11 Geo. 4, and 1 Will. 4, c. 34; Shubenaccadie Canal.
9 & 10 Vict. cc. 42, 82, and 10 & 11 Vict. c. 112; New Zealand Company.)

33. An Act to amend the Law as to Contingent Remainders.
(Amends law as to Contingent Remainders.)

34. An Act to amend the Acts 17th and 18th Victoria, chapter 113, and 30th and 31st Victoria, chapter 69.
(Amends 17 & 18 Vict. c. 113, and 31 & 31 Vict. c. 69, as to Administration of Estates of Deceased Persons.)

*35. An Act for affording Facilities for the enjoyment by the Public of Open Spaces in the Metropolis.
(Enables Metropolitan Board of Works to acquire open spaces for benefit of the Public; and applies Metropolis Management Act (1855), 18 & 19 Vict. c. 120.)

36. An Act to amend "The Registration of Leases (Scotland) Act, 1857."
(Amends 20 & 21 Vict. c. 26.
Saves 49 Geo. 3, c. 42; Public Records, Scotland.)

*37. An Act for extending the Time for the Registration of Trade Marks, in so far as relates to Trade Marks used in Textile Industries.
(Extends time for Registration under 38 & 39 Vict. c. 91, and 39 & 40 Vict. c. 33.)

38. An Act to continue for One Year the Board of Education in Scotland.
(Extends time limited by 35 & 36 Vict. c. 62.)

39. An Act to amend the Factors' Acts.
(Amends 4 Geo. 4, c. 83, 6 Geo. 4, c. 94, 5 & 6 Vict. c. 39; (Protection of Property intrusted to Agents).

40. An Act to amend the Form of Warrant of Execution on certain Extracts of Writs registered in the Books of Council and Session and Sheriff Court Books in Scotland; and to provide for the Authentication of certain Extracts of Writs.
(Amends 49 Geo. 3, c. 42; Public Records (Scotland).
Applies 31 & 32 Vict. c. 54; Judgments Extension.
31 & 32 Vict. c. 64; Land Registers (Scotland).)

41. An Act for making provision with respect to the Preparation and Authentication of Commissions and other Documents issued from the Office of the Clerk of the Crown in Chancery; and for other purposes.
(Makes provision as to preparation and authentication, &c., of certain Documents.)

42. An Act to amend the Law relating to the Fisheries of Oysters, Crabs, and Lobsters, and other Sea Fisheries.
(Repeals 39 & 40 Vict. c. 151; Norfolk Crab and Lobster Fisheries.
Applies 31 & 32 Vict. c. 45; Sea Fisheries Act, 1868.
Revises (temporarily) 6 & 7 Vict. c. 79; As to French Fishing.
Applies 11 & 12 Vict. c. 43; Summary Jurisdiction.
,, 27 & 28 Vict. c. 53; Summary Procedure (Scotland).
,, 14 & 15 Vict. c. 93; Petty Sessions (Ireland).
,, Act to Isle of Man and the Channel Islands.)

43. An Act to amend the Law with respect to the Appointment,

Payment, and Fees of Clerks of Justices of the Peace and Clerks of Special and Petty Sessions.

(Amends, and in part repeals, 14 & 15 Vict. c. 55, Criminal Justice Administration, 11 & 12 Vict. c. 43, Summary Jurisdiction.)

44. An Act to make provision respecting the Superannuation Allowance of Officers whose Salaries were formerly payable out of the Mercantile Marine Fund.

(Amends 17 & 18 Vict. c. 104; 34 & 35 Vict. c. 110; 35 & 36 Vict. c. 73; 36 & 37 Vict. c. 85; 39 & 40 Vict. c. 80; } Merchant Shipping Acts, 1854—1876.
,, 18 & 19 Vict. cap. 119; Passengers' Act, 1865.)

45. An Act to limit and regulate the Treasury Chest Fund.

(Repeals 24 & 25 Vict. c. 127; 36 & 37 Vict. c. 56; } Treasury Chest Fund Acts, 1861 & 1873.
Applies 29 & 30 Vict. c. 39; Exchequer and Audit Act, 1866.)

46. An Act to extend the provisions of the Winter Assizes Act, 1876.

(Amends 39 & 40 Vict. c. 57.)

*47. An Act for the Union under one Government of such of the South African Colonies and States as may agree thereto, and for the Government of such Union; and for purposes connected therewith.

(Provides for the Union under one Government of certain of the South African Colonies.)

*48. An Act to make further provision respecting the Universities of Oxford and Cambridge and the Colleges therein.

Amends 17 & 18 Vict. c. 81; 19 & 20 Vict. c. 31; 20 & 21 Vict. c. 25; 23 & 24 Vict. c. 91; 32 & 33 Vict. c. 20; } Oxford University.
,, 19 & 20 Vict. c. 88; Cambridge University.
Saves 34 & 35 Vict. c. 26; Universities Tests.)

49. An Act to amend the Law relating to Prisons in Ireland.

(Establishes "The General Prisons Board for Ireland," and abolishes offices of Inspector-General of Prisons, Director of Convict Prisons, and Registrar of Criminals.
Amends 7 Geo. 4, c. 74 (Prisons, Ireland) and Acts amending same.
,, 17 & 18 Vict. c. 76, (Convict Prisons, Ireland), and Acts amending same; section 4 of 14 & 15 Vict. c. 85, Constabulary Force (Ireland); section 15 of 31 & 32 Vict. c. 59 Reformatory School (Ireland); 34 & 35 Vict. c. 112, Prevention of Crimes Act, 1871.
Applies 36 & 37 Vict. c. 51, Prison Officers (Ireland) Superannuation Act, 1873; 22 Vict. c. 26, Superannuation Act, 1859; 34 & 35 Vict. c. 36; Pensions Commutation Act, 1871; 8 & 9 Vict. c. 18 and 23 & 24 Vict. c. 106, Lands Clauses Acts; 14 & 15 Vict. c. 70, 23 & 24 Vict. c. 97, and 27 & 28 Vict. c. 71, Railways (Ireland) Acts; 19 & 20 Vict. c. 102, Common Law Procedure (Ireland) Act, 1856; 34 & 35 Vict. c. 102; Charitable Donations and Bequests (Ireland) Act, 1871.)

50. An Act to amend the Law in regard to the appointment of Sheriffs Substitute and Procurators Fiscal in Scotland; to extend the jurisdiction of and amend the procedure in the Sheriff Courts of Scotland; and for certain other purposes connected therewith.

(Repeals section 9 of 6 Geo. 4, c. 23; as to Qualification of Sheriffs Substitute.
,, section 7 of 23 & 24 Vict. c. 33; Bankruptcy (Scotland).
,, section 51 (in part) of 8 & 9 Vict. c. 19; Lands Clauses (Scotland).
Extends Act of Scottish Parliament, 1695, as to Sheriffs' Jurisdicton.)

51. An Act to enable the Secretary of State in Council of India to raise Money in the United Kingdom for the Service of the Government of India.

(Applies section 4 of 5 & 6 Will. 4. c. 64, as to Composition for Stamp Duties.
,, section 32 of 22 & 23 Vict. c. 35, 26 & 27 Vict. c. 73, and 33 & 34 Vict. c. 93, as to Capital Stock.)

52. An Act for further amending the Acts relating to the raising of Money by the Metropolitan Board of Works; and for other purposes relating thereto.

(Amends and applies Acts, 1869 to 1876; viz., 32 & 33 Vict. c. 102, 33 & 34 Vict. c. 24, 34 & 35 Vict. c. 47, 38 & 39 Vict. c. 65, and 39 & 40 Vict. c. 55.
Applies 18 & 19 Vict. c. 120; 25 & 26 Vict. c. 102; } Metropolitan Management Acts, 1855 and 1862.
,, 28 & 29 Vict., c. 90; Fire Brigade Act. 1865.
,, 24 & 25 Vict. c. 98, as to Forgery.)

53. An Act to amend the Law relating to Prisons in Scotland.

(Appoints "The Prisons Commissioners for Scotland."
Repeals 23 & 24 Vict. c. 105, (except ss. 72–75); 28 & 29 Vict. c. 84; 32 & 33 Vict. c. 35; } Prisons (Scotland) Administration Acts, 1860, 1865, and 1869.
,, section 2 of 26 & 27 Vict. c. 109; Removal of Prisoners (Scotland.)
,, sections 36 and 37 of 27 & 28 Vict. c. 53; Summary Procedure Act, 1854.
,, section 50 of 20 & 21 Vict. c. 71; Lunatics (Scotland).
Amends 5 & 6 Will. 4. c. 38; Inspectors of Prisons.
Applies 22 Vict. c. 26; Superannuation Act, 1859.
,, 34 & 35 Vict. c. 36; Pensions Commutation Act, 1871.
,, 31 & 32 Vict. c. 37; Documentary Evidence Act, 1868.
,, 8 & 9 Vict. c. 19; Lands Clauses (Scotland) Act, 1845.
,, 32 & 33 Vict. c. 33; Judicial Statistics (Scotland) Act, 1869.
,, 17 & 18 Vict. c. 86; 29 & 30 Vict. c. 118; } Reformatory and Industrial Schools.
,, 31 & 32 Vict. c. 50; Prisons (Scotland) Administration (Lanarkshire).

*54. An Act to amend the Public Libraries Acts.

(Amends 29 & 30 Vict. c. 114 (England),
,, 18 & 19 Vict. c. 40 (Ireland).
,, 30 & 31 Vict. c. 37 (Scotland).)

55. An Act to amend the Public Record Office Act, 1838.

(Amends 1 & 2 Vict. c. 94; As to valueless Documents.
,, 23 & 24 Vict. c. 149; as to Chancery Masters' Documents.).

56. An Act to amend the Laws relating to County Officers and to Courts of Quarter Sessions and Civil Bill Courts in Ireland.

(Repeals 1 Geo. 4, c. 27; Clerks of the Peace (Ireland).
,, section 11 of 6 & 7 Will. 4. c. 34; Petty Sessions (Ireland).
,, section 12 of 14 & 15 Vict. c. 57; Civil Bill Courts (Ireland).
Amends 14 & 15 Vict. c. 57, and 37 & 38 Vict. c. 66; Civil Bill Courts (Ireland).
,, 33 & 34 Vict. c. 109; Common Law Procedure (Ireland).
Applies 22 Vict. c. 26; Superannuation Act, 1859.
,, 12 & 13 Vict. c. 97; as to Clerk of Peace for Dublin.
,, 33 & 34 Vict. c. 93; Married Women's Property Act, 1870.
,, 20 & 21 Vict. c. 79; Probates, &c. (Ireland) Act, 1857.
,, 39 & 40 Vict. c. 71; Chairmen of Quarter Sessions (Ireland) Act, 1876.
,, 30 & 31 Vict. c. 114 and 39 & 40 Vict. c. 28; Court of Admiralty (Ireland),
,, 23 & 24 Vict. c. 154, and 33 & 34 Vict. c. 46; Landlord and Tenant (Ireland).
,, 4 and 5 Will. 4. c. 92; Acknowledgment of Deeds by Married Women.
,, 6 & 7 Will. 4, c. 116, s. 70; Grand Jury Presentments (Ireland).
,, Trustees Relief Acts.)

57. An Act for the constitution of a Supreme Court of Judicature, and for other purposes relating to the better Administration of Justice in Ireland.

(Unites existing Courts into one Supreme Court of Judicature; and Acts relating to former Courts to apply to Courts under this Act.
Applies 11 & 12 Vict. c. 78; Criminal Law Administration, Crown Cases Reserved).
,, 13 & 14 Vict. c. 69; Registration of Voters (Ireland).
,, 21 & 22 Vict. c. 72; Sale and Transfer of Land (Ireland).
,, 19 & 20 Vict. c. 92; Chancery Appeal Court (Ireland).

Applies 30 & 31 Vict. c. 129; Chancery and Common Law Officers (Ireland).
,, 30 & 31 Vict. c. 44; Chancery (Ireland) Act, 1857.
,, 28 & 29 Vict. c. 88; Record of Title Act, 1865.
,, 21 & 22 Vict. c. 27, and 25 & 26 Vict. c. 46; Chancery Amendment Act, 1858, and Chancery Regulation (Ireland) Act, 1868.
,, 31 & 32 Vict. c. 49, Parliamentary Elections Act, 1868.
,, 33 & 34 Vict. c. 46: Landlord and Tenant (Ireland) Act, 1870.
,, 19 & 20 Vict. c. 102, and 33 & 34 Vict. c. 109; Common Law Procedure (Ireland).
,, 36 & 37 Vict. c. 66, and 38 & 39 Vict. c. 77; Supreme Court of Judicature Acts, 1873 and 1875.
,, 39 & 40 Vict. c. 57; Winter Assizes Act, 1876; and (except s. 5) extends it to Ireland.
,, 22 Vict. c. 26; Superannuation Act, 1859.
Amends 20 & 21 Vict. c. 60; Irish Bankrupt and Insolvent Act, 1857, as to unclaimed Dividends.)

58. An Act to continue for one year the Police (Expenses) Act, 1875.

(Continues for one year 38 & 39 Vict., c. 48.)

59. An Act to amend the Law with respect to the Transfer of Stock forming part of the Public Debt of any Colony, and the Stamp Duty on such Transfer.

(Applies 5 & 6 Will. 4, c. 62; Statutory Declaration Act. 1835.
,, 24 & 25 Vict. c. 98, and 33 & 34 Vict. c. 58, as to Forgery.)

*60. An Act to provide for the Registration and Regulation of Canal Boats used as Dwellings.

(Applies 38 & 39 Vict. c. 55; Public Health Act, 1875.
,, 18 & 19 Vict. c. 120; Metropolis Management Act, 1855.
,, 33 & 34 Vict. c. 75, 36 & 37 Vict. c. 86, and 39 & 40 Vict. c. 79; Education Acts, 1870, 1873, 1876.
,, 25 & 26 Vict. c. 89; Companies Act, 1862.
,, 17 & 18 Vict. c. 104; Merchant Shipping Act, 1854.
,, 11 & 12 Vict. c. 43; Summary Jurisdiction Act, 1848.)

61. An Act to apply a sum out of the Consolidated Fund to the service of the year ending the 31st of March, 1878, and to appropriate the Supplies granted in this Session of Parliament.

(Repeals section 7 of 33 & 34 Vict. c. 96 } Appropriation Acts, 1870 and 1872.)
,, section 6 of 35 & 36 Vict. c. 87 }

62. An Act to amend the Law relating to Legal Practitioners.

(Applies section 12 of 37 & 38 Vict. c. 68 (Attorneys and Solicitors Act, 1874), in cases where other than qualified Practitioners act in cases of Probate, &c.)

*63. An Act to amend the Building Societies Act, 1874.

(Amends 37 & 38 Vict. c. 42.)

64. An Act to continue certain Turnpike Acts in Great Britain, and to repeal certain other Turnpike Acts; and for other purposes connected therewith.

(Repeals and continues Local Acts as set forth in Schedule.
Amends section 19 of 34 & 35 Vict. c. 115; Turnpike Acts Continuance Act, 1871.)

65. An Act to prohibit the use of Dynamite or other Explosives for the purpose of catching or destroying Fish in Public Fisheries.

(Applies Summary Jurisdiction and Procedure Acts, and Petty Sessions (Ireland) Act, 1851, &c.)

66. An Act to amend the Law with respect to the Annual Returns of Local Taxation in England, and for other purposes relating to such Taxation.

(Amends 23 & 24 Vict. c. 51.)

67. An Act to continue various expiring Laws.

(Continues (as in Schedule) the following Acts, and Acts amending the same, viz.:—
5 & 6 Will. 4, c. 27; Linen, &c., Manufactures (Ireland).
3 & 4 Vict. c. 89; Poor Rates (Stock in Trade Exemption).
4 & 5 Vict. c. 35; Copyhold, &c., Commissions.

4 & 5 Vict. c. 59; Application of Highway Rates.
10 & 11 Vict. c. 32; Landed Property Improvement (Ireland).
10 & 11 Vict. c. 98; Ecclesiastical Jurisdiction.
11 & 12 Vict. c. 32; County Cess (Ireland).
11 & 12 Vict. c. 107; Sheep and Cattle Diseases.
14 & 15 Vict. c. 104; Episcopal, &c., Estates.
17 & 18 Vict. c. 102; Corrupt Practices Prevention.
23 & 24 Vict. c. 19; Dwellings for Labouring Classes (Ireland).
24 & 25 Vict. c. 109; Salmon Fishery (England).
25 & 26 Vict. c. 97; Salmon Fisheries (Scotland).
26 & 27 Vict. c. 105; Promissory Notes.
27 & 28 Vict. c. 9; Malt for Animals.
27 & 28 Vict. c. 20; Promissory Notes, &c. (Ireland).
28 & 29 Vict. c. 46; Militia Ballots Suspension.
28 & 29 Vict. c. 66; Malt Duty.
28 & 29 Vict. c. 83; Locomotives on Roads.
29 & 30 Vict. c. 52; Prosecution Expenses.
31 & 32 Vict. c. 125; Election Petitions, &c.
32 & 33 Vict. c. 21; Election Commissioners' Expenses.
34 & 35 Vict. c. 87; Sunday Observance Prosecutions.
34 & 35 Vict. c. 105; Petroleum.)

*68. An Act for preventing the introduction and spreading of Insects destructive to Crops.

(Empowers Privy Council to make Orders for preventing the introduction of the Colorado Beetle.
Applies 32 & 33 Vict. c 96, Contagious Diseases (Animals).
,, 14 & 15 Vict. c. 90; Fines (Ireland) Act, 1851.)

69. An Act to amend the Law with respect to the Grant of Municipal Charters.

(Defines "Municipal Corporations Acts," with their respective short titles, as set forth in Schedule.
Repeals section 141 of 5 & 6 Will. 4, c. 76.
,, section 49 of 7 Will. 4, & 1 Vic. c. 78.)

ABSTRACTS OF IMPORTANT ACTS

PASSED IN THE FOURTH SESSION OF THE TWENTY-FIRST PARLIAMENT OF GREAT BRITAIN AND IRELAND.

1. CHURCH AND EDUCATION.

UNIVERSITIES OF OXFORD AND CAMBRIDGE.

[40 and 41 Victoriæ, cap. 48.—10th August, 1877.]

An Act to make further provision respecting the Universities of Oxford and Cambridge and the Colleges therein.

Preliminary.

The preamble to this statute, which consists of 61 sections, recites that the revenues of the Universities of Oxford and Cambridge are not adequate to the full discharge of the duties incumbent on them respectively, and it is therefore expedient that provision be made for enabling or requiring the Colleges in each University to contribute more largely out of their revenues to University purposes, especially with a view to further and better instruction in art, science, and other branches of learning, where the same are not taught, or not adequately taught, in the University. The preamble further recites that it may be requisite, for the purposes aforesaid, as regards each University, to attach fellowships and other emoluments held in the Colleges to offices in the University, and that it is also expedient to make provision for regulating the tenure and advantages of fellowships not so attached, and for altering the conditions on which the same are held, and to amend in divers other particulars the law relating to the Universities and Colleges.

Constitution of the Commissions.

The first section gives, as the short title of the statute, "The Universities of Oxford and Cambridge Act, 1877." Section 2 defines the terms used in the Act, and section 3 enacts that there shall be two bodies of Commissioners, styled respectively, the University of Oxford Commissioners and the University of Cambridge Commissioners, and the provisions of the Act are to apply to either or both as the case may require. The University of Oxford Commissioners are, by section 4, to be Lord Selborne, the Earl of Redesdale, Dr. Mountague Bernard, Sir W. R. Grove, Dr. Bellamy, Professor H. J. S. Smith, and Mr. M. W. Ridley. The University of Cambridge Commissioners named in section 5 are: Lord Chief Justice Cockburn, the Bishop of Worcester, Lord Rayleigh, the Right Hon. E. P. Bouverie, Professor J. B. Lightfoot, Professor G. G. Stokes, and Mr. G. W. Hemming, Q.C. Section 6 provides that if one of these Commissioners dies or becomes incapable of acting, the Queen may appoint a successor, provided that the name of every person so appointed shall be laid before the Houses of Parliament within ten

days after the appointment, if Parliament is then sitting, or if not, then ten days after the next meeting of Parliament.

Duration and Proceedings of the Commission.

Section 7 limits the duration of the Commission to the end of the year 1880, but it is to be lawful for Her Majesty the Queen, from time to time, with the advice of Her Privy Council, on the application of the Commissioners, to continue the powers of the Commissioners for such time as Her Majesty thinks fit, but not beyond the end of the year 1881. The Commissioner first named in the Act (Lord Selborne for Oxford and Lord Chief Justice Cockburn for Cambridge) is to be the chairman of the Commissioners respectively; and ,n case of his ceasing from any cause to be a Commissioner, or of his absence from any meeting, the Commissioners present at each meeting are to choose a chairman. The powers of the Commissioners may be exercised at a meeting at which three or more of their number are present. In case of an equality of votes on a question, the chairman of the meeting is given a second or casting vote in respect of that question. Section 9 requires the Commissioners to have a common seal, and that the same shall be judicially noticed. Section 10 provides that any act of the Commissioners shall not be invalid by reason only of any vacancy in their body; but if at any time, and as long as, the number of persons acting as Commissioners is less than four, the Commissioners are to discontinue the exercise of their powers.

Statutes for University and Colleges.

Under section 11, until the end of the year 1878, the University and the governing body of a College are to have the same powers which are, from and after the end of that year, conferred upon the Commissioners for making statutes, or for altering or repealing statutes made by them for the University or Colleges respectively, and every statute so made is, before the end of the year, to be laid before the Commissioners, and if approved by them in writing under their seal, either before or after the end of that year, but not otherwise, it is, as regards its force and operation and also as regards proceedings prescribed by this Act to be taken respecting a statute made by the Commissioners, it is to be deemed a statute made by the Commissioners. If, within a month after a statute so made is laid before the Commissioners, a member of the governing body of the College makes a representation in writing to the Commissioners respecting it, the Commissioners before approving it are to consider the representation, and in considering a statute so made they are to have regard to the interests of the University and Colleges therein as a whole. Such statutes made by Colleges are not to be approved by the Commissioners until they have published a statement of the main purposes relative to the University for which, in their opinion, provision should be made under this Act, the sources from which funds for these purposes should be obtained, and the principle on which payments from the colleges for these purposes should be contributed, but this provision is not to interfere with the exercise of the discretionary powers of the Commissioners under the Act. Section 12 names the end of the year 1878 as the period from and after which the Commissioners may,

under this Act, make statutes for the University and for any College or hall, and may alter or repeal any statutes they have made. Section 13 excludes from the action of the Commissioners any trusts, conditions, or directions affecting a University or College emolument, where the original charter, deed of composition, or other instrument of foundation (not being an Order in Council made under, or a statute or ordinance having effect under, any Act mentioned in the schedule to this Act) was made or executed within fifty years before the passing of this Act; but nothing in this section is to prevent the Commissioners from making a statute increasing the endowment of any University or College emolument, or otherwise improving the position of the holder thereof. Section 14 requires the Commissioners, in making a statute affecting a university or college emolument, to have regard to the main design of the founder, except where the same has ceased to be observed before the passing of this Act, or where the trusts, conditions, or directions affecting the emolument have been altered in substance by or under any other Act, and section 15 requires them, in making a statute for the University or a College or Hall, to have regard to the interests of education, religion, learning, and research, and in the case of a statute for a College or Hall to have regard in the first instance, to the maintenance of the College or Hall for those purposes. Section 16 defines the objects of the statutes to be made for the University generally to be for the advancement of art, science, and other branches of learning, especially as follows:—(1.) For enabling or requiring the several Colleges, or any of them, to make contribution out of their revenues for University purposes, regard being first had to the wants of the several Colleges in themselves for educational and other collegiate purposes: (2.) For the creation, by means of contributions from the Colleges or otherwise, of a common University Fund, to be administered under the supervision of the University: (3.) For making payments, under the supervision of the University, out of the said common fund for the giving of instruction, the doing of work, or the conducting of investigations within the University in any branch of learning or inquiry connected with the studies of the University: (4.) For consolidating any two or more professorships or lectureships: (5.) For erecting and endowing professorships or lectureships: (6.) For abolishing professorships or lectureships: (7.) For altering the endowment of any professorship or lectureship: (8.) For altering the conditions of eligibility or appointment and mode of election or appointment to any professorship or lectureship, and for limiting the tenure thereof: (9.) For providing retiring pensions for professors and lecturers: (10.) For providing new or improving existing buildings, libraries, collections, or apparatus for any purpose connected with the instruction of any members of the University, or with research in any art or science or other branch of learning, and for maintaining the same: (11.) For diminishing the expense of University education by founding scholarships tenable by students either at any College or Hall within the University, or as unattached students, not members of any College or Hall, or by paying salaries to the teachers of such unattached students, or by otherwise encouraging such unattached students: (12.) For founding and endowing scholarships, exhibitions, and prizes for encouragement of proficiency in any

art or science or other branch of learning: (13.) For modifying the trusts, conditions, or directions of or affecting any University endowment, foundation, or gift, or of or affecting any professorship, lectureship, scholarship, office, or institution, in or connected with the University, or of or affecting any property belonging to or held in trust for the University or held by the University in trust for a Hall, as far as the Commissioners think the modification thereof necessary or expedient for giving effect to statutes made by them for any purpose in this Act mentioned: (14.) For regulating presentations to benefices in the gift of the University: (15.) For regulating the application of the purchase money for any advowson sold by the University: (16.) For founding any office not paid out of University or College funds in connexion with any special educational work done out of the University under the control of the University, and for remunerating any secretary or officer resident in the University and employed there in the management of any such special educational work: (17.) For altering or repealing any statute, ordinance, or regulation of the University, and substituting or adding any statute for or to the same. Section 17 prescribes that the Commissioners, in statutes made by them for a College, may from time to time make provision for the following purposes relative to the College, or any of them:—(1.) For altering and regulating the conditions of eligibility or appointment, including where it seems fit those relating to age, to any emolument or office held in or connected with the College, the mode of election or appointment thereto, and the value, length, and conditions of tenure thereof, and for providing a retiring pension for a holder thereof: (2.) For consolidating any two or more emoluments held in or connected with the College: (3.) For dividing, suspending, suppressing, converting, or otherwise dealing with any emolument held in or connected with the College: (4.) For attaching any emolument held in or connected with the College to any office in the College, on such tenure as to the Commissioners seems fit, and for attaching to the emolument, in connexion with the office, conditions of residence, study, and duty, or any of them: (5.) For affording further or better instruction in any art or science or other branch of learning: (6.) For providing new or improving existing buildings, libraries, collections, or apparatus, for any purpose connected with instruction or research in any art or science or other branch of learning, and for maintaining the same: (7.) For diminishing the expense of education in the College: (8.) For modifying the trusts, conditions, or directions affecting any College endowment, foundation, or gift, or any property belonging to the College, or the head or any member thereof, as such, or held in trust for the College, or for the head or any member thereof, as such, as far as the Commissioners think the modification thereof necessary or expedient for giving effect to statutes made by them for the College: (9.) For regulating presentations to benefices in the gift of the College: (10.) For regulating the application of the purchase money for any advowson sold by the College: (11.) For altering or repealing any statute, ordinance, regulation, or bye-law of the College, and substituting or adding any statute for or to the same. Under section 18 the Commissioners, in statutes made by them for a College, may from time to time make provision for the following purposes relative to the University, or any of them:—(1.) For

authorising the College to commute any annual payment agreed or required to be made by it for University purposes into a capital sum to be provided by the College out of money belonging to it, and not produced by any sale of lands or hereditaments made after the passing of this Act: (2.) For annexing any emolument held in or connected with the College to any office in the University, or in a Hall, on such tenure as to the Commissioners seems fit, and for attaching to the emolument, in connexion with the office, conditions of residence, study, and duty, or any of them: (3.) For assigning a portion of the revenues or property of the College, as a contribution to the common fund or otherwise, for encouragement of instruction in the University in any art or science or other branch of learning, or for the maintenance and benefit of persons of known ability and learning, studying or making researches in any art or science or other branch of learning in the University: (4.) For empowering the College by statute made and passed at a general meeting of the governing body of the College specially summoned for this purpose, by the votes of not less than two-thirds of the number of persons present and voting, to transfer the library of the College, or any portion thereof, to any University library: (5.) For providing out of the revenues of the College for payments to be made, under the supervision of the University, for work done or investigations conducted in any branch of learning or inquiry connected with the studies of the University within the University: (6.) For giving effect to statutes made by the Commissioners for the University: (7.) For modifying the trusts, conditions, or directions of or affecting any College endowment, foundation, or gift, concerning or relating to the University, as far as the Commissioners think the modification thereof necessary or expedient for giving effect to statutes made by them for the University. By section 19 the probable increase of University or College emoluments affected by statutes made by the Commissioners is to be taken into account by them, and they are authorised to make provision for the application of the increase or addition. Section 20 gives the Commissioners power to provide in any statute they may make for the continuance of any voluntary payment which it has been the custom to make out of College revenues. Section 21 empowers the Commissioners to make provision in statutes for the form, publication, and audit of University and College accounts, and for the regulation of the borrowing powers, and of the conditions of leases of the University or Colleges. Section 22 enables the Commissioners to unite, wholly or partially, Colleges or Halls with any institution in the University, provided application be made—(1) in the case of an Oxford College, by resolution of a meeting of the governing body carried by votes of not less than two-thirds of those present and voting, or in case of an application for complete union, with the consent in writing of the visitor of the college; (2) in the case of a Hall, by a resolution of the Hebdomadal Council, with the consent in writing of the Chancellor of the University; (3) in the case of a Cambridge College, by a resolution of the governing body at a meeting specially summoned for the purpose, or in case of an application for complete union by vote of not less than two-thirds of those present voting; (4) in the case of an institution, with the consent of the congregation or senate of the University. Sections 23 to 25 inclusive, containing saving clauses

respecting the Hulme and Snell Exhibitions, and the canonry annexed to the provostship of Oriel at Oxford; and section 26 enables the Commissioners to sever the canonry at Ely at present annexed to the Regius professorship at Cambridge from that professorship, and for its union to a professorship in the University of a theological or ecclesiastical character, with power, nevertheless, for the Commissioners, with the concurrence of the Ecclesiastical Commissioners, if they think it expedient, to allow the present professor to resign the professorship, and to hold the canonry, as if it had never been annexed to the professorship. By section 27, any statute as to the Regius Professorship at Cambridge affecting any statutes of Trinity College must receive the consent of the College. Section 28 empowers the Commissioners to alter the Dixie Foundation in Emmanuel College, Cambridge, after notice in writing to the founder's heirs. Under section 29, any statute affecting the right of nomination or appointment to the headship of St. Mary Magdalene College, Cambridge, must receive the consent by deed of the person entitled to that right. Under section 30, the Commissioners are required to distinguish in their statutes whether they are, wholly or in part, either for the University or for the colleges. Proposed statutes are, under section 31, to be communicated, one month before adoption, to the Hebdomadal Council at Oxford, and to the head and visitor of the College or principal of Hall; and, at Cambridge, to the council of the senate and the governing body of the College affected; and representations made in reply are to be considered; and notice of such representation is to be given publicly by the Vice-Chancellor in the University. By section 33 the Commissioners may authorise and direct the University, college, or hall, to suspend any of its appointments for a time within the powers of the Commissioners; and section 34 has a saving clause for the protection of the existing interests of any person affected. Section 35 enables the Commissioners to call for the production of University or College accounts or documents.

Representation of Colleges and Halls.

Eight weeks at least (exclusive of any University vacation) before the Commissioners, in the first instance, enter on the consideration of a statute to be made by them for a College or Hall, they are, by section 36, to give notice to the governing body of the College, and in the University of Oxford to the visitor of the College, and in the case of a Hall to the principal of the Hall, of their intention to do so. And rules are given for the representation of the University, College, or Hall, by selected persons. Fourteen days' written notice of any meeting to make statutes for a College or Hall is, under section 37, to be given to the governing body of the college or the principal of the Hall. By section 38 the validity of the Commissioners' acts as regards Colleges and Halls is not to be affected by the failure of the governing body of such College or Hall to send a representative, or by the representative's failure to attend.

Schools

If in any case the Commissioners contemplate making a statute for a College, affecting any right of preference in elections to any College emolument lawfully belonging to and enjoyed by any school, indivi-

dually named or designated in any instrument of foundation, they are, under section 39, two months at least before adopting any final resolution in that behalf, to give notice, in writing under their seal, to the governing body of the school, or to the master or principal of the school on behalf of the governing body, and to the Charity Commissioners, of the proposed statute. Sections 39 to 43 inclusive contain various provisions on this head.

Universities Committee of Privy Council.

In accordance with section 44, there is to be a Committee of Her Majesty's Privy Council, styled the Universities Committee of the Privy Council (in this Act referred to as the Universities Committee). The Universities Committee shall consist of the President of the Privy Council, the Archbishop of Canterbury, the Lord Chancellor, the Chancellor of the University of Oxford (if a member of the Privy Council), the Chancellor of the University of Cambridge (if a member of the Privy Council), and such other member or two members of the Privy Council as Her Majesty from time to time thinks fit to appoint in that behalf, that other member, or one at least of those two other members, being a member of the Judicial Committee of the Privy Council. The powers and duties of the Universities Committee may be exercised and discharged by any three or more of the members of the Committee, one of whom shall be the Lord Chancellor or a member of the Judicial Committee of the Privy Council.

Confirmation or Disallowance of Statutes.

The Commissioners, within one month after making a statute, are, by section 45, to cause it to be submitted to Her Majesty the Queen in Council, and notice of it having been so submitted is to be published in the London Gazette. Under section 46, any time within three months after the gazetting of a statute, the University or the governing body of a College, or the trustees, governors, or patron of a University or College emolument, or the principal of a Hall, or the governing body of a school, or any other person or body, in case the University, College, emolument, hall, school, person, or body, is directly affected by the statute, may petition the Queen in Council for the disallowance of it or of any part of it. By section 47 the Queen may refer such statutes to the Universities Committee before which the petitioners are to be entitled, to be heard by themselves or by counsel. Section 48 empowers the Queen, on a report from the University Committee, to disallow the statute or a part of it, or to remit it to them. By section 49 statutes not referred, or not disallowed or remitted, are to be laid before the Houses of Parliament. Under section 50 if neither House of Parliament, within twelve weeks (exclusive of any period of prorogation) after a statute or part of a statute is laid before it, presents an address praying the Queen to withhold her consent therefrom, it shall be lawful for the Queen in Council by Order to approve the same.

Effect of Statutes.

By section 51 every statute or part of a statute made by the Commissioners, and approved by Order in Council, is to be binding on the University and on every College and Hall, and is to be effectual notwithstanding any instrument of foundation or any Act of Parlia-

ment, Order in Council, decree, order, statute, or other instrument or thing constituting wholly or in part an instrument of foundation, or confirming or varying a foundation or endowment, or otherwise regulating the University or a College or Hall. Section 52 gives power at Cambridge to the Chancellor to settle doubts as to the meaning of University Statutes. He may declare in writing the meaning of the statute on the matter submitted to him, and his declaration shall be registered by the registrary of the University, and the meaning of the statute as therein declared shall be deemed to be the true meaning thereof.

Alteration of Statutes.

Sections 53 to 55 refer to this subject, and give rules for the alteration of statutes.

Reference of other Statutes to Universities' Committee.

Section 56 provides various regulations on this subject.

Tests.

Section 57 explains that nothing in this Act is to repeal any provision of the "University Tests Act of 1871." Section 58 enacts that where the Commissioners, by any statute made by them, erect or endow an office declared by them in the statute to require in the incumbent thereof the possession of theological learning, which (notwithstanding anything in this Act) they are hereby empowered to do, provided the office be not a headship or fellowship of a college, then the "Universities Tests Act, 1871," shall, with reference to that office, be read and have effect as if the statute had been made before and was in operation at the passing of the "Universities Tests Act, 1871." By section 59 the Comissioners, in statutes made by them, are to make provision, as far as may appear to them requisite, for the due fulfilment of the requisitions of sections 5 and 6 of the "Universities Tests Act, 1871" (relating to religious instruction and to morning and evening prayer in Colleges); but, except for that purpose, they shall not, by a statute made by them, endow wholly or in part an office of an ecclesiastical or theological character by means of any portion of the revenues or property of the University or a College not forming, when the statute comes into operation, the endowment, or part of the endowment, of an office of that character, and in any statute made by them, shall not make directly or indirectly through the consolidation or combination of any office or emolument with any other office or emolument, whether in the University or in a College or Hall, the entering into holy orders or the taking of any test a condition of the holding of any office or emolument existing at the passing of this Act to which that condition is not at the passing of this Act attached.

The remaining sections relate wholly to technical details.

2. LAW AND JUSTICE.

SUPREME COURT OF JUDICATURE.

[40 and 41 Victoriæ, cap. 9.—24th April, 1877.]

An Act for amending the Supreme Court of Judicature Acts, 1873 *and* 1875.

The short title of this Act is, under its first section, to be "The Supreme Court of Judicature Act, 1877," and it is to be construed as one with the Judicature Acts of 1873 and 1875. Section 2 renders it lawful for the Queen to appoint a judge of the High Court of Justice in addition to the number of judges of that court authorised to be appointed by the Acts of 1873 and 1875. Under section 3 the additional judge thus appointed is to be in the same position as if he had been appointed a puisne judge of the High Court in pursuance of the Acts of 1873 and 1875; and all the provisions of those Acts for the time being in force in relation to the qualification and appointment of puisne judges of the said High Court, and to their tenure of office, and to their precedence, and to their salaries and pensions, and to the officers to be attached to the persons of such judges, and all other provisions relating to such puisne judges, or any of them, with the exception of such provisions as apply to existing judges only, are to apply to the additional judge. The judge thus appointed is to be attached to the Chancery Division of the High Court, subject to such power of transfer as is mentioned in the Act of 1873. Section 4 decides the question of the style of the judges of the High Court of Justice. The ordinary judges of the Court of Appeal are to be styled Lords Justices of Appeal, and the judges of the High Court of Justice (other than the Presidents of Divisions) to be styled Justices of the High Court. By section 5 a puisne judge of the High Court of Justice is defined as meaning, for the purposes of this Act, a judge of the High Court of Justice other than the Lord Chancellor, the Lord Chief Justice of England, the Master of the Rolls, the Lord Chief Justice of the Common Pleas, and the Lord Chief Baron, and their successors respectively.

QUARTER SESSIONS—BOROUGHS.

[40 and 41 Victoriæ, cap. 17.—28th June, 1877.]

An Act to amend the Law relating to the Division of Courts of Quarter Sessions in Boroughs.

The preamble recites the expediency of amending 7 Will. IV and 1 Vict., cap. 19, under which provision is made for the better dispatch of business in courts of quarter sessions for corporate cities or towns by the division of such courts, and by the appointment of an assistant barrister to preside in one division of any such court. By section 1 of the present Act, the resolution of a town council approving of the exercise of the principal Act, is to have force for twelve months from the date on which it is passed, and it is no longer to be necessary to pass a fresh resolution upon each occasion when the powers are to be

exercised. By section 2 it is to be lawful for the council of any corporate city or town, with the consent of one of Her Majesty's Principal Secretaries of State, from time to time, by resolution, to extend from two to not exceeding four, the number of days for which an assistant barrister, assistant clerk of the peace, or additional crier is to be entitled to claim remuneration under the provisions of the recited Act; and any such resolution may be made for such period and subject to revocation in such manner as the said Secretary of State approves.

PRISONS.

[40 and 41 Victoriæ, cap. 21.—12th July, 1877.]

An Act to Amend the Law relating to Prisons in England.

This statute, consisting of sixty-one sections, is introduced by a declaration that it is to come into force on the 1st April, 1878, except in so far as relates to the making of rules under its provisions by the Secretary of State, which rules may be made at any time after its passing. Section 3 excludes Scotland and Ireland from the operation of the Act.

Part I.

Transfer and Administration of Prisons.

Section 4 enacts that, on and after the commencement of the Act, all expenses for the maintenance of prisons and prisoners to which this Act applies are to be met out of moneys provided by Parliament, and, from the same period (under section 5), all such prisons, their furniture and effects, the appointment of officers and control and safe custody of the prisoners, also all powers and jurisdiction at common law, or by Act of Parliament, or by charter vested in or exerciseable by prison authorities or the justices in sessions assembled, in relation to prisons or prisoners within their jurisdiction, are to be transferred to, vested in, and exercised by one of Her Majesty's Principal Secretaries of State.

Administration of Prisons.

Section 6 provides for the appointment of any number of Commissioners, not exceeding five, on the recommendation of the Secretary of State, to aid him in carrying out the provisions of this Act. The Commissioners so appointed are to be a body corporate with a common seal, with power to hold land without licence in mortmain so far as may be necessary for the purposes of this Act, and are to be styled "The Prison Commissioners." The Secretary of State may, from time to time, appoint one of the Commissioners to be chairman. Any act or thing required or authorised to be done by the Prison Commissioners may be done by any one or more of them, as the Secretary of State may by general or special rule direct. Under section 7 the Prison Commissioners are to be assisted in the performance of their duties by such number of officers and servants as may, with the sanction of the Treasury as to number, be determined by the Secretary of State, by whom the inspectors are to be appointed, but the other officers and servants are to be appointed by the Prison Commissioners themselves, subject to the approval of the Secretary of State. A salary, out of moneys provided by Parliament, may, under

section 8, be paid to all or any one or more of the Prison Commissioners, as the Secretary of State may, with the consent of the Treasury, determine, and the officers' salaries are to be paid on the same system. The general superintendence of prisons under this Act is, by section 9, vested in the Commissioners, subject to the Secretary of State's control, and the section further defines the duties of the Commissioners, including the appointment of officers, the making of contracts, the visitation and inspection of prisons, decisions as to repairs or alterations, the conduct of officers and their treatment of prisoners, and all powers and jurisdiction exerciseable by Act of Parliament, or at common law, or by charter, by visiting justices. The Commissioners, on their part, are required to conform to any directions which may from time to time be given to them by the Secretary of State. They are required, by section 10, at such time or times as the Secretary of State may direct, to furnish a report to him as to the condition of the prisons and prisoners within their jurisdiction, and an annual report, to be made by them with respect to every prison within their jurisdiction, is to be laid before both Houses of Parliament. By section 11, their reports are to contain information as to manufacturing processes in the prisons, with such particulars as to the kind and quantities of, and as to the commercial value of the labour on the manufactures, as to the number of prisoners employed, and otherwise, as may, in the opinion of the Secretary of State, be best calculated to afford information to Parliament. They are also, by section 12, to make a yearly return to Parliament of all punishments, of any kind whatsoever, which may have been inflicted within each prison, and the offences for which such punishments were inflicted.

Visiting Committee of Justices.

Section 13 enacts that on and after the commencement of this Act the 53rd and 54th sections of the "Prison Act, 1865," relating to the appointment and duties of visiting justices, are to be repealed. A visiting committee is to be annually appointed for every prison under this Act, consisting of such number of justices of the peace, to be appointed at such time and by such court of quarter sessions, or such bench or benches of magistrates as the Secretary of State, having regard to the locality of the prison, to the justices heretofore having jurisdiction over such prison, and to the class of prisoners to be confined in such prison may direct. The justices of any county, riding, or liberty of a county having a separate court of quarter sessions are to appoint members of a visiting committee at such general quarter sessions as may be prescribed by the Secretary of State, and borough justices are to do the same at a special sessions. In the case of the Worcester Prison, constituted by the special Act of 1867 (30 & 31 Vict. c. 23), the appointment of the visiting committee is to vest in the Corporation of the city. Section 14 defines the duties of the visiting committees, for whose guidance rules are to be framed by the Secretary of State, and who are from time to time, and at frequent intervals, to report on abuses within the prisons, or on repairs which may be necessary, and they are to be deemed visiting justices for all the purposes relating to the punishment of prisoners referred to in the Prisons Act of 1865, provided that an offender shall not be punished under sections 58 and 59 of that Act, or either of them, by personal correction,

except in pursuance of the order of two justices of the peace after such inquiry upon oath and determination concerning the matter reported to them as is mentioned in the regulation numbered 58. The visiting committee is to report to the Secretary of State any matters with respect to which they may consider it expedient, and as soon as may be and in such manner as he may direct on any matter respecting which they may be required by him to report. Section 15 repeals section 55 of "The Prisons Act, 1865," and substitutes for it the following enactment, viz.: Any justice of the peace, having jurisdiction in the place in which a prison is situate, or having jurisdiction in the place where the offence in respect of which any prisoner may be confined in prison was committed, may, when he thinks fit, enter into and examine the condition of such prison, and of the prisoners therein, and he may enter any observations he may think fit to make in reference to the condition of the prison or abuses therein in the visitors' book to be kept by the gaoler; and it shall be the duty of the gaoler to draw the attention of the visiting committee, at their next visit to the prison, to any entries made in the said book; but he shall not be entitled, in pursuance of this section, to visit any prisoner under sentence of death, or to communicate with any prisoner, except in reference to the treatment in prison of such prisoner, or to some complaint that such prisoner may make as to such treatment.

PART II.—*As to Obligations to maintain Prisons.*

On and after the commencement of this Act the obligation of any county, riding, division, hundred, liberty, franchise, borough, town, or other place having a separate prison jurisdiction, to maintain a prison or to provide prison accommodation for its prisoners is, by section 16, to cease. By section 17 any prison authority not having at the time of the passing of this Act a prison of its own, or prisons adequate to the accommodation of the prisoners belonging to it, is to pay the Exchequer 120*l.* in respect of each prisoner for whom it has not provided cell accommodation, and such sum is to be deemed a debt due to the Crown, and recoverable accordingly. Where a prison authority has contributed towards the construction by another prison authority of cell accommodation, and such accommodation has been constructed, a proportionate deduction is to be made in the contribution to the Exchequer under this section. In order to comply with this section, a prison authority may borrow of the Public Works Loan Commissioners at such rate of interest as the Treasury may determine, provided that the whole amount borrowed be discharged within 35 years. In cases where before 1st January, 1877, any prison authority had contracted to provide for prisoners of some other authority, the money which it had expended on cell accommodation may be repaid by Parliament up to a sum of 120*l.* for the accommodation for each prisoner. When it appears that any contract under this section is intended to be renewed at the expiration of its subsisting term, the intention of renewal is to be taken into consideration in estimating the loss sustained by the receiving authority. Where a prison authority has provided a prison or prisons of its own more than adequate for the accommodation of its prisoners, it is to be entitled to receive, out of moneys to be provided by Parliament, compensation to the extent of 120*l.* in respect of each cell provided over and above the number of cells required for the average

maximum number of prisoners maintained at the expense of such authority in its own prison during the five years immediately preceding the 1st January, 1877; provided always that in case the Prison Commissioners shall report to the Secretary of State that the prison accommodation is in excess of the probable requirements of such prison authority for its own prisoners, or that the buildings are dilapidated or unsuitable, it shall be lawful for the Secretary of State to decline to recommend to the Treasury to make such compensation, in whole or in part, as the circumstances of the case may demand, and provided also, that no compensation shall be payable under this rule in respect of any prison discontinued within two years after the commencement of this Act. "Probable requirements" is defined to mean the probable future requirements of a prison authority calculated as from the passing of this Act. The average maximum number of prisoners of a prison authority maintained in any prison in any period of five years is to be calculated by finding the greatest number of such prisoners confined therein on the day on which such prison contained most of such prisoners as aforesaid in each of the said five years, and dividing the aggregate so found by five, excluding fractions. Section 19 permits an allowance to be made to a prison authority in respect of an uncompleted prison, and the Secretary of State may allow the authority to complete the prison, which is, when finished, to vest in him.

Contracts and Debts.

Section 20 contains a general saving of the rights of creditors for claims made before the commencement of the Act, and by section 21 contracts between prison authorities are to be determined on the commencement of the Act, without prejudice to any moneys which may have become due in respect of such contracts before that time. Prison authorities are by section 22 to defray all debts incurred before the commencement of the Act, including all mortgage debts contracted in respect of any prison. Continuous contracts entered into to be performed partly before and partly after the commencemeut of the Act, may be discharged as regards the part unfulfilled at the commencement of the Act out of Parliamentary moneys.

Classification and Commitment of Prisoners.

Under section 24, the Secretary of State may from time to time by any general or special rule appoint in any county a convenient prison or prisons in which prisoners are to be confined before and during trial, or at either of such times, and any prisoner who might, if this Act had not passed, have been lawfully confined in a prison situate within the area of such county may be lawfully confined in any prison or prisons so appointed. The Secretary of State may in the same way appoint any convenient prison or prisons in any adjoining county to which prisoners may be committed for trial, safe custody, or otherwise, and any prisoners may be committed to such prison accordingly. Section 25 enacts that the Secretary of State may appropriate either wholly or partially particular prisons within his jurisdiction to particular classes of convicted criminal prisoners, and may remove any convicted criminal prisoner from any one prison to any other prison within his jurisdiction for the purpose of his undergoing the whole or

any portion of his punishment in such prison; provided that a prisoner who is confined in a prison situate beyond the limits of the county, borough, or place in which he was convicted of his offence is, at the time of his discharge, to be taken back at the public expense to the county, borough, or place in which he was so convicted. Under section 26, the Secretary of State may from time to time by any general or special rule appoint in any county a prison or prisons in which debtors and prisoners who are not criminal prisoners are to be confined during the period of their imprisonment, and it shall be lawful to confine in any prison so appointed any debtor or prisoner who might, if this Act had not passed, have been confined in any prison situate within the area of the county. By section 27, subject to this Act and any rules made in pursuance thereof, prisoners may be committed to the same prison to which they might have been committed if this Act had not passed, and the committal or imprisonment of a prisoner to or in a prison, if otherwise valid, is not to be illegal by reason only that such prisoner ought, according to the law for the time being in force, to have been committed to or imprisoned in some other prison. At the same time any such prisoner is, on application made on his behalf in a summary manner to any judge of the High Court of Justice, to be entitled to be removed at the public expense to such other prison. Under section 28, a prisoner is to be deemed to be in legal custody whenever he is being taken to or from, or whenever he is confined in, any prison in which he may be lawfully confined, or whenever he is working outside or is otherwise beyond the walls of any such prison in the custody or under the control of a prison officer belonging to such prison; and any constable or other officer acting under the order of any justice of the peace or magistrate having power to commit a prisoner to prison may convey a prisoner to or from any prison to or from which he may be legally committed or removed, notwithstanding such prison may be beyond the constablewick or other jurisdiction of such constable or officer, in the same manner and with the same incidents as if such prison were within such constablewick or other jurisdiction. Where any prisoner is discharged from prison, the Prison Commissioners may, under section 29, on the recommendation of the visiting committee or otherwise, order a sum of money, not exceeding 2*l.*, to be paid by the gaoler to the prisoner himself or to the treasurer of a certified prisoners' aid society or refuge, on the gaoler receiving from such society an undertaking in writing, signed by the secretary thereof, to apply the same for the prisoner's benefit.

As to Jurisdiction.

Section 30 enables the Secretary of State to direct that any prison appointed by him is to be considered the prison of any county or other division, but until the transfer of prisons under this Act takes place, the jurisdiction of the sheriff or coroner or, except as provided by the Act, of any justice of the peace is not to be affected. Section 31 relieves sheriffs from the date of the commencement of the Act from any liability for the escape of prisoners, but under section 32, nothing in this Act is to affect the jurisdiction or responsibility of the sheriff in respect of prisoners under sentence of death, or his jurisdiction and control over the prison where such prisoners are confined;

and in carrying out the sentence of death he is to have the same jurisdiction as he would have had over the common gaol of his county if this Act had not passed.

Discontinuance of Prisons.

Section 33 gives the Secretary of State power, by order, to discontinue any prisons vested in him by this Act, provided that there remain one in each county, except for special reasons to the contrary, and any order made under this section is to be laid before both houses of Parliament, if sitting, or if not within a month after the commencement of the next session. When a prison is discontinued, the Secretary of State is by section 34 to serve a notice on the prison authority that he will within a period of not less than six months, cause the prison, but without furniture or effects, to be reconveyed to the authority on payment by it to the Exchequer of 120*l.* for the accommodation provided for each prisoner, and the prison authority, when it is reconveyed, may sell or dispose of it as it thinks fit. If the authority declines to take it back, it is to be sold by the Secretary of State, who after paying expenses of sale and paying into the Exchequer the amount which the authority would have paid, is to render the overplus to the authority. Sums payable by prison authorities in pursuance of this section are to be recoverable as a debt due to the Crown, and the prison authority may borrow under this section in terms already referred to.

Status of Prison Officers.

By section 35 the officers attached to prisons at the time of the commencement of this Act are to hold their offices by the same tenure, and upon like terms and conditions, as if this Act had not passed, and to receive salaries of not less amount than those which they have hitherto received. Such existing officers may be distributed amongst the several prisons to which this Act applies in such manner as may be directed by the Secretary of State. and perform such duties as they may be required to perform, so that such duties are the same or analogous to those they performed previously to the commencement of this Act.

The section also saves any existing officer of a prison who is at the commencement of this Act in the receipt of military or naval half-pay, or who has commuted his pension, or is in receipt of any pension payable out of public moneys, from any deduction from his salary, or deprivation of any portion of his half-pay, or pension, by reason of his salary being thenceforward paid out of public moneys, or of his employment becoming a public employment. Section 36 refers to the superannuation of officers and abolition of office.

Miscellaneous.

Section 37 relaxes the law as to hard labour under 28 and 29 Vict., cap. 126. In the case of a male of sixteen years and upwards sentenced to hard labour, who is directed to be kept to hard labour of the first class during the whole of his sentence where it does not exceed three months, and during the first three months of his sentence where it exceeds three months: the Secretary of State may in either of such cases substitute hard labour of the second class for hard labour of the

first class during the last two of such three months, or any part of such last two months, and he may make such substitution either by a general or special regulation, and either conditionally or unconditionally, and may from time to time vary any regulation so made. In making any regulations in pursuance of this section, the Secretary of State is to have regard to the previous convictions, the industry, and the conduct of the prisoners. Section 38 empowers the Secretary of State to make rules as to treatment of prisoners confined for non-payment of sums in the nature of debts. Section 39 provides for the making of special rules as to treatment of unconvicted prisoners and certain other prisoners: (1.) with respect to the retention by a prisoner of the possession of any books, papers, or documents in his possession at the time of his arrest, and which may not be required for evidence against him, and are not reasonably suspected of forming part of property improperly acquired by him, or are not for some special reasons required to be taken from him for the purposes of justice; (2.) with respect to communications between a prisoner, his solicitor, and friends, so as to secure to such prisoner as unrestricted and private communication between him, his solicitor, and his friends as may be possible, having regard only to the necessity of preventing any tampering with evidence, and any plans for escape, or other like considerations; and (3.) with respect to arrangements whereby prisoners may provide themselves with articles of diet, or may be furnished with a sufficient quantity of wholesome food, and may be protected from being called upon to perform any unaccustomed tasks or offices; also any matter which the Secretary of State may think conducive to the amelioration of the condition of a prisoner who has not been convicted of crime, regard being had to such matters as are in this section directed to be regarded. Sections 40 and 41 relate to the treatment of prisoners convicted of sedition and of those committed for contempt of court. By section 42, "painful tests" of malingering are only to be applied by order from the Visiting Committee of Justices or a Prison Commissioner. Section 43 limits the time of confinement of a prisoner in a punishment cell by the gaoler to twenty-four hours, and the same punishment by order of visiting justices is not to exceed fourteen days. Section 44 prohibits any person engaged in trade or dealing with the prison from acting as a juror at an inquest on a prisoner dying in a prison. Section 45 provides for the transfer of duties of existing Inspectors of Prisons, those so acting at the commencement of the Act becoming inspectors under it. The subjects of the remaining miscellaneous sections are as follows:—46, power of prison authority to borrow on rate; 47, power of Public Works Loans Commissioners to lend; 48, legal estate in prison; 49, appropriation of court-houses situate within the precincts of a prison; 50, protection of prisons in the nature of national monuments; 51, rules of Secretary of State, and repeal of inconsistent enactments; 52, saving clause as to reformatory and industrial schools; 53, saving clause as to pensions; 54, commutation of payment by University of Oxford to the city of Oxford; 55, power for Secretary of State and prison authority to compromise and refer to arbitration; 56, definition of "furniture and effects belonging to a prison;" 57, definition of "prisoner" and "the maintenance of a prisoner," "cell accommoda-

tion for a prisoner;" 58, definition of "county" and "riding;" 59, definition of "borough;" 60, definition of "prison;" 61, definition of "prison authorities," "justices in sessions assembled," "visiting justices."

THE SCOTCH GAME LAW.

[40 and 41 Victoriæ, cap. 28.]

An Act to amend the Laws relating to Game in Scotland.

By this statute, which amends some dozen Acts, a lessee of a lease granted subsequently to the 1st of January, 1878 (the commencement of the new law) is to be entitled to compensation for damage done to his crops in each year by game to which the lessor may have reserved or retained the sole right, in excess of any such sum as may have been set forth in the lease as the amount of annual damage for which it is agreed that no compensation shall be due; and if no such sum shall be set forth in the lease, then in excess of 40*s*. In the case of "excessive damage" the lessee is to intimate in writing the same, and, failing an agreement as to the amount, or a reference to arbiters to settle the matter, to take steps to recover such excess in the form prescribed. The manner of procedure is defined by the Act. A lessee in actual possession may kill hares without a game certificate, and a lessee is not to grant to more than one person authority to kill hares on the land occupied by him, and the name of the person so authorised by the lessee is to be stated. The Act points out the Courts where prosecutions under the Game Laws are to be heard.

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3. TRADE AND COMMERCE.

CANAL BOATS.

[40 and 41 Victoriæ, cap. 60.—14th August, 1877.]

An Act to provide for the Registration and Regulation of Canal Boats used as Dwellings.

By the first section of this statute it is enacted that twelve months after the commencement of this Act, or if the regulations of the Local Government Board framed under it are not then in force at the expiration of six months from their enforcement, no canal boat shall be used as a dwelling, unless it is registered under this Act, and then only for the number of persons of the age and sex for which it is registered. For using a boat in contravention of the Act the master and also the owner if he is in fault, is to be liable each to a fine not exceeding 20*s*. for each occasion on which the boat is so used. Section 2 empowers the Local Government Board to make regulations for registration, fixing the number of persons, promoting cleanliness, and preventing infectious disease on the canal boats. By section 3 it is enacted that upon the registry of a boat under this Act, the registration authority is to give to the owner two certificates of registry, identifying the owner and the boat, and stating the place to which the boat is registered as belonging, and the number, age, and sex of the persons allowed

to dwell in the boat, and such other particulars as may be provided by regulations under this Act, or may seem fit to the registration authority, and the master is to have the care of one of the certificates. Every canal boat when registered is to be lettered, marked, and numbered in some conspicuous manner (as directed by the regulations made under the Act), and such lettering, marking, and numbering is to include the word "registered," and the name of the place to which the boat is registered as belonging, and the registered number. Any boat not lettered, marked, and numbered in conformity with this section, or having the letter, mark, or number altered, defaced, or obliterated, is to be deemed, for the purposes of this Act, to be an unregistered canal boat. Section 4 provides for the interposition of the sanitary authority to prevent the spread of infectious disease when he is informed that it exists in a canal boat, and for that purpose he may exercise the power of removing a person suffering from such disease, and all other powers in relation to provisions against infection conferred by the "Public Health Act, 1875," and may, if need be, detain the boat as long as is necessary for cleansing and disinfecting it. Section 5 empowers any person duly authorised by a registration or sanitary authority, or by a justice of the peace, to enter a canal boat when he has reason to believe that there is any contravention of the Act, or any case of infectious disease on board, and refusal on the part of the master to furnish him with necessary information is to be deemed an obstruction, rendering the obstructor liable to a fine not exceeding 40*s*. Section 6 places children in registered canal boats and their parents under the provisions of the "Elementary Education Acts," and for this purpose they are to be deemed as resident in the place to which the boat is registered as belonging; but on proof that the child is attending a school or receiving efficient instruction in another district, a certificate to that effect is to be given by the school board or attendance committee of that district. This certificate may, however, on application by the parent, be rescinded or varied by the school board or school attendance committee for the place to which the boat is registered as belonging, and may be rescinded without application by any such board or committee, if they are satisfied, after due notice to the parent, that his child is not properly attending school or under efficient instruction in the school district mentioned in the certificate. Section 7 enacts that for the purpose of the registration of canal boats the registration authority shall be such one or more of the sanitary authorities having districts abutting on a canal as may from time to time be prescribed by regulation of the Local Government Board; and the boat is to be registered with one of these authorities having a district abutting on the canal on which the boat is accustomed or intended to ply. In order to determine the place to which a canal boat belongs, for the purpose of the "Elementary Education Acts," the registration authority is to register any canal boat in respect of which an application is made for registration as belonging to some place which is either a school district or part of a school district, and is situate wholly or partly within the jurisdiction of the registration authority with which it is registered. Under section 8, the expenses incurred in the execution of this Act by a local authority are to be defrayed as follows:—(1.) When they are incurred by an urban sanitary authority, a rural sanitary authority, or a port sanitary authority, out of the fund or rate out of

which the expenses of such authority, as a sanitary authority under the "Public Health Act, 1875," are defrayed; provided that when they are incurred by a rural sanitary authority they are to be deemed to be general expenses; and (2) when they are incurred by a vestry or district board in the metropolis, they are to be defrayed as expenses incurred by such vestry or board in the execution of the "Metropolis Management Act, 1855," and the Acts amending the same. Section 9 provides that an order of the Local Government Board making, revoking, or varying any regulation in pursuance of this Act is not to come into force until it has lain in a complete form as settled and approved by the Board for forty days before both Houses of Parliament during the session of Parliament. The Local Government Board is to take steps for enabling all persons interested in any regulations made by that Board in pursuance of this Act to inspect such regulations. Illegal detention of a certificate of registry on the part of the master of a canal boat is to be punished on summary conviction before two justices by a fine of 40*s.*, and the justices may direct any part of such fine to be paid to the person injured by the detention of such certificate. Under section 11, all fees paid in respect of registration under this Act are to be carried to the fund or rate out of which the expenses incurred in the execution of the Act by the authority making such registration are by the Act declared to be payable. Section 12 gives power to any company or association, corporate or unincorporate, being the owners of any canal boats, or being the owners, lessees, or undertakers of any canal, with the assent of a special resolution of their members, and notwithstanding any Act of Parliament, charter, or document regulating the funds of the company or association, to appropriate any portion of their funds to the establishment and maintenance of schools where the children of the persons employed in canal boats may be lodged, maintained, and educated, or educated only; with this restriction, that the children shall not be maintained gratuitously, but the lodging or education may be wholly or partially gratuitous. Section 13 provides for the recovery of penalties under the Act, and section 14 defines the terms used in it. Section 15 fixes the 1st of January, 1878, as the day on which the Act is to come into operation. Section 16 excludes Scotland and Ireland from its operation, and section 17 gives its short title as "The Canal Boats Act, 1877."

BUILDING SOCIETIES.

[40 and 41 Victoriæ, cap. 63.—14th August, 1877.]

An Act to amend the Building Societies Act, 1874.

Section 1 gives the short title of the statute as "The Building Societies Act, 1877," and provides that it shall be construed as one with the principal Act of 1874 and the Act of 1875 (37 and 38 Vict., cap. 42, and 38 and 39 Vict., cap. 9). By section 2 no alteration of the rules is to be necessary upon the change of the chief office of a Building Society, and section 18 of the Act of 1874 not to apply to such a change. Notice of every such change is to be given by the secretary of the Society to the Registrar within seven days after such change, and is to be registered by him. He is to give a certificate of such registration. Section 3 provides for the reading of section 27

of the principal Act as if the word "now" were omitted from it. Under section 4 all rights of action and other rights and interests in real and personal estate whatsoever held in trust for any Society heretofore incorporated under the principal Act are, on the passing of this Act, to vest in the Society without any conveyance or assignment whatsoever, except in the case of stocks and securities in the public funds of Great Britain and Ireland, and estates in copyhold or customary hereditaments the title to which cannot be transferred without admittance. By section 5 the registration of union of societies or of transfer of engagements is to operate as an effectual conveyance of funds and property of uniting societies to the united society and to the society to which engagements are transferred. Forms for carrying out the provisions of the Act are set forth in the schedule.

TRADE MARKS.

[40 and 41 Victoriæ, cap. 37.—6th August, 1877.]

An Act for extending the Time for the Registration of Trade Marks, in so far as relates to Trade Marks used in Textile Industries.

The first section of the Trades Marks' Registration Act of 1876 provided that from and after the 1st of July, 1877, a person should not be entitled to institute any proceeding to prevent or to recover damages for the infringement of any trade mark as defined by the Trade Marks' Registration Act, 1875, until and unless such trade mark was registered in pursuance of the principal Act, or until and unless, with respect to any device, mark, name, combination or words, or other matter or thing in use as a trade mark before the passing of the principal Act, registration thereof as a trade mark under the principal Act should have been refused, as in the said Act thereafter mentioned. The preamble of the present Act recites that by reason of the difficulties attending the registration of trade marks used in the textile industries it has been found impossible to complete the registration of such trade marks within the time specified by the said section, and it is therefore expedient to prolong such time as aforesaid, and section 1 enacts that in so far as relates to the registration of trade marks used in the textile industries, but not further or otherwise, section 1 of the Trade Marks Registration Amendment Act, 1876, shall be construed as if for the words "from and after the 1st of July, 1877," there were substituted the words "from and after the 1st of January, 1878, or such further time as Her Majesty by Order in Council determine."

THE COMPANIES ACT.

[40 and 41 Victoriæ, cap. 26.—23rd July, 1877.]

An Act to amend the Companies Acts of 1862 *and* 1867.

The preamble recites that doubts have been entertained whether the power given by "The Companies Act, 1867," to a company of reducing its capital extends to paid-up capital, and that it is expedient to remove such doubts. Section 3 enacts that in 30 and 31 Vict., cap. 131, the word "capital" is to include paid-up capital, and the

power to reduce capital conferred by that Act is to include a power to cancel any lost capital, or any capital unrepresented by available assets, or to pay off any capital which may be in excess of the wants of the company; and paid-up capital may be reduced either with or without extinguishing or reducing the liability (if any) remaining on the shares of the company, and to the extent to which such liability is not extinguished or reduced it shall be deemed to be preserved, notwithstanding anything contained in "The Companies Act, 1867." Under section 4 the provisions of "The Companies Act, 1867," as amended by this Act, are to apply to any company reducing its capital in pursuance of this Act and of "The Companies Act, 1867," as amended by this Act: provided that where the reduction of the capital of a company does not involve either the diminution of any liability in respect of unpaid capital or the payment to any shareholder of any paid-up capital, (1) the creditors of the company shall not, unless the Court otherwise direct, be entitled to object or required to consent to the reduction; and (2) it shall not be necessary before the presentation of the petition for confirming the reduction to add, and the Court may, if it thinks it expedient so to do, dispense altogether with the addition of the words "and reduced," as mentioned in "The Companies Act, 1867." In any case that the Court thinks fit so to do, it may require the company to publish in such manner as it thinks fit the reasons for the reduction of its capital or such other information in regard to the reduction of its capital as the Court may think expedient with a view to give proper information to the public in relation to the reduction of its capital by a company, and, if the Court thinks fit, the causes which led to such reduction. The minute required to be registered in the case of reduction of capital is to show, in addition to the other particulars required by law, the amount (if any) at the date of registration of the minute proposed to be deemed to have been paid up on each share. Section 5 gives power to reduce capital by the cancellation of unissued shares. Any company limited by shares may so far modify the conditions contained in its memorandum of association, if authorised so to do by its regulations as originally framed or as altered by special resolution, as to reduce its capital by cancelling any shares which, at the date of the passing of such resolution, have not been taken or agreed to be taken by any person: and the provisions of "The Companies Act, 1867," are not to apply to any reduction of capital made in pursuance of this section. Section 6 provides for the reception in all civil and criminal courts of certified copies of documents of proceedings registered under the Acts of Joint Stock Companies in the United Kingdom, if duly certified as true copies.

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4. LOCAL GOVERNMENT.

OPEN SPACES (METROPOLIS).

[40 and 41 Victoriæ, cap. 35.—2nd August, 1877.]

An Act for affording facilities for the Enjoyment by the Public of Open Spaces in the Metropolis.

The preamble having declared the expediency of affording facilities

for making the open spaces in and near the metropolis available for recreation, and of enabling the Metropolitan Board of Works to acquire the control and management of such spaces for such purposes, section 1 empowers the Board to purchase on voluntary sale or by gift to acquire and hold open spaces for the benefit of the public. By section 2 the right of entry to places of recreation may be conveyed to the Metropolitan Board of Works by the owners in trust for the public, and by section 3 the Board is empowered to make such provision as may be necessary for maintaining and protecting the open spaces so acquired. Section 4 authorises the Board to pay out of the funds at their disposal or which they are empowered to raise under the "Metropolis Management Act, 1855," and the several Acts amending the same, the costs and charges which they may incur in the execution of this Act, and such costs and charges are to be deemed to be expenses for which provision is made by such Acts. Section 5 excludes from the operation of the Act the royal parks, land belonging to Her Majesty in right of Her Crown or of Her Duchy of Lancaster, or any garden, ornamental ground, or ornamental land for the time being under the management of the Commissioners of Her Majesty's Works and Public Buildings or of the Commissioners under the Crown Estate Paving Act, 1851, or to any Metropolitan Common within the meaning of "The Metropolitan Commons Act, 1866," and "The Metropolitan Commons Amendment Act, 1869," or any land belonging to either of the Honourable Societies of the Inner Temple and Middle Temple. Under section 7 the powers in this Act conferred on the Metropolitan Board of Works are in the city of London to be exercised by the mayor, aldermen, and commons, who are to defray all the expenses caused by or connected with the execution of such powers. The short title of the statute is by section 8 "The Metropolitan Spaces Act, 1877."

FREE LIBRARIES.

[40 and 41 Victoriæ, cap. 54.—14th August, 1877.]

An Act to amend the Public Libraries Acts.

The preamble declares the necessity for amending the Public Libraries Acts of England, Ireland, and Scotland, as regards the final step for the adoption of these Acts, and it shows that the vote of a public meeting prescribed by those Acts has been found a most incorrect and unsatisfactory mode, and that it fails to indicate the general opinion of the ratepayers. The first section proceeds to enact that the opinion of the majority of the ratepayers may be ascertained by the local authority, either by the prescribed public meeting or by the issue of a voting paper to each ratepayer. The subsequent collection and scrutiny of the papers, and any expense in connection with them is to be borne in the same way as the expense of a public meeting would be borne, and the decision of the majority so ascertained is to be equally binding. Section 2 provides that, in addition to the simple vote "Yes" or "No" to the adoption of the Act, the voting paper may stipulate that its adoption shall be subject to a limitation to some lower rate of assessment than the maximum allowed by Act of Parliament in force at the time, and such lower

limit, if once adopted, shall not be subsequently altered except by public vote similarly taken. Section 3 defines the term "ratepayer" as including every inhabitant who would have to pay the free library assessment in event of the Act being adopted; and section 4 gives the short title of the Act as "The Public Libraries Amendment Act, 1877."

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5. MISCELLANEOUS.

DESTRUCTIVE INSECTS.

[40 and 41 Victoriæ, cap. 68.—14th August, 1877.]

An Act for Preventing the Introduction and Spreading of Insects destructive to Crops.

Section 1 gives power to the Privy Council to make Orders for preventing the introduction into Great Britain of the Colorado beetle, and provides that in such Orders they may prohibit the landing of potatoes, or of the stalks and leaves from the potato or other vegetable substance likely to introduce the insect, and may order the destruction of such articles if landed. Persons landing or attempting to land such articles are to be liable to forfeit them as if they were goods of which the importation is prohibited under the Customs Acts, and they are to be liable to the same Acts. Section 2 gives the Privy Council power to authorise the removal or destruction of any crop of potatoes or other crop or substance on which the said insect in any stage of existence is found, or to or by means of which it may appear to be likely to spread, and enables them to direct the entering on any lands for the purpose of the removal or destruction of the insect, or for the purpose of any examination or inquiry authorised by the Order, or for any other purpose of the Order. Such Order may, if the Privy Council think fit, prohibit the keeping, selling, or exposing or offering for sale, or the keeping of living specimens of the said insect, in any stage of existence, or the distribution in any manner of such specimens, and it may impose penalties for offences against the Order, not exceeding ten pounds for any offence; such penalties to be recoverable, with costs, on summary conviction before two justices of the peace, and to be applied in the same way as penalties recovered under the Contagious Diseases (Animals) Act, 1869. By section 3, compensation for the removal or destruction of crops may be paid by the local authority according to the following provisions:—(1.) In the case of a crop on which the insect, in any stage of existence, is found, the compensation shall not exceed one-half of the value of the crop; (2.) In every other case the compensation shall not exceed three-fourths of the value of the crop; (3.) The value of the crop shall in each case be taken to be the value which, in ordinary circumstances, the crop would have had at the time of its removal or destruction; (4.) The local authority may, if they think fit, require the value of the crop to be ascertained by their officers or by arbitration; and (5.) The authority may, if they think fit, withhold compensation if, in relation to the crop, the owner or the person having charge thereof, has, in their judgment, done anything in contravention of, or failed to do anything in compliance with, any

Order under this Act. The local authorities under the Contagious Diseases (Animals) Act, 1869, with their respective districts, local rates, clerks, and committees, are, under section 4, to be local authorities for the purposes of this Act; the Privy Council can require them to carry out Orders made by the Council under this Act, the resulting expense and compensation to be paid out of the local rate. The local authority is to keep a record of its proceedings under this Act, and such records are to be admitted in evidence. By section 5, Orders under the Act relating to England are to be published in the *London Gazette*, and those relating to Scotland in the *Edinburgh Gazette*, save that where the Order affects only specified lands, the insertion of the notice of the making of the Order is to be sufficient. Orders made under the Act are to be published by the local authority as the Privy Council directs. By section 6, two or more Lords of the Council may put the Act in force, but the Orders affecting only specified lands may be made by the Lord President or one of Her Majesty's Principal Secretaries of State. Section 7 applies the Act to Ireland. By section 8, every Order under this Act is to be laid before both Houses of Parliament within ten days after the making of the Order, if Parliament is then sitting; and if not, then within ten days after its next meeting. Section 9 authorises the payment of the expenses of the execution of this Act, other than expenses and compensation paid by local authorities, out of money to be provided by Parliament. Section 10 gives the short title as "The Destructive Insects Act, 1877."

SOUTH AFRICA.

[40 and 41 Victoriæ, cap. 47.—13th August, 1877.]

An Act for the Union under one Government of such of the South African Colonies and States as may agree thereto, and for the Government of such Union; and for purposes connected therewith.

The preamble of this Act, of which the short title is to be "The South Africa Act, 1877," recites that proposals have been made for uniting under one Government under the Crown of the United Kingdom of Great Britain and Ireland, those colonies and states of South Africa which may voluntarily elect to enter into such Union; that such Union would conduce to the welfare of the said colonies and states and promote the interests of the British Empire; that it is expedient to make provision for any two or more of the said colonies or states to unite at such time as may be found convenient; and that it is expedient to declare and define the general principles on which the constitution of the legislative authority and of the Executive Government in the Union may be established, and to enable the details of the said constitution and of the administrative establishments thereunder, to be provided for after the wishes and opinions of the said colonies and states with respect to such details have been duly represented to Her Majesty through their respective Legislatures.

Section 3 renders it lawful for the Queen with and by the advice of Her Privy Council, to declare, by Order in Council that, on and after a day therein appointed, any two or more of the colonies or states of South Africa whose respective Legislatures may so agree shall be joined or confederated together in Union under one general Government and Legislature, with such name and designation as to Her

Majesty may seem fit; and on and after that day the said general Government and Legislature of the Union shall have full power and effect within the said colonies or colonies and states which have so agreed. By section 6 the Executive Government and Authority of and over the Union is declared to be vested in the Queen and may be exercised on Her Majesty's behalf by the Governor-General or the officer appointed to administer the Government by or by authority of Her Majesty's Royal Letters Patent. Sections 7 to 12 provide for the carrying out of this arrangement; section 13 vests the command-in-chief of the land and naval militia, and of all naval and military forces, of and in the Union, in the Queen, and under section 14 the seat of Government of the Union is to be such place as the Queen may direct. Section 15 provides for the constitution of the Parliament of the Union, consisting of the Queen, an Upper House hereinafter styled the Legislative Council, and a House of Representatives styled the House of Assembly. The privileges, immunities, and powers held by the Legislative Council and House of Assembly are, under section 16, to be defined by Act of the Union Parliament and are never to exceed those of the Commons House of Parliament of the United Kingdom. Section 18 provides for the constitution of the Legislative Council, and sections 19 to 22, for the constitution, summoning, and other arrangements of the House of Assembly, and the remaining sections 23 to 61 relate to the business of the Parliament, the establishment of Provincial Governments, the distribution of Legislative Powers, and questions of revenue and taxation.

ABSTRACTS OF PARLIAMENTARY AND OTHER OFFICIAL DOCUMENTS.

1. FINANCE, TAXATION, AND CURRENCY.

NATIONAL REVENUE AND EXPENDITURE.—The subjoined Tables show the gross PUBLIC REVENUE and EXPENDITURE of the United Kingdom in the year ended 31st March, 1877:—

SOURCES OF REVENUE:—	£
Customs	19,922,000
Excise	27,736,000
Stamps	10,890,000
Land Tax and House Duty	2,532,000
Property and Income Tax	5,280,000
Post Office	6,000,000
Telegraph Service	1,305,000
Crown Lands (Net)	410,000
Miscellaneous	4,490,036
Total Income	£78,565,036
Income for year estimated in Budget	£78,412,000
Excess of Income over Budget Estimate	153,036

BRANCHES OF EXPENDITURE:—	£
Permanent Charge of Debt:—	
Interest and Management of the Debt	21,588,981
Terminable Annuities	5,374,198
Interest of Exchequer Bills, &c.	112,039
New Sinking Fund	624,780
Interest, &c., not forming part of the above Permanent Charge, viz.:—	
Interest on Loans for Local Purposes	142,921
Interest and Principal of Exchequer Bonds (Suez)	149,912
Other Charges on Consolidated Fund:—	
Civil List	406,709
Annuities and Pensions	316,668
Salaries and Allowances	96,850
Courts of Justice	631,791
Miscellaneous Services (Ordinary)	143,018
Voted Supply Services:—	
Army Services	15,251,354
,, ,, Charges on account of Troops in India	170,000
Army Purchase Commission	498,362
Navy Services	11,364,383
Ashantee Expedition (Vote of Credit)	2,017
Miscellaneous Civil Services	13,333,851
Customs and Inland Revenue Departments	2,766,279
Post Office	3,159,218
Telegraph Service	1,141,000
Post Office Packet Service	850,889
Total Ordinary Expenditure	£78,125,227
Add, Expenses of Localisation of Military Forces	900,000
Total	£76,025,227
Expenditure for year estimated in Budget	£78,901,000
Actual Payments out of Exchequer	78,125,227
Less than Estimates by	775,773

Customs and Excise.—The Produce of the two great sources of Public Revenue, Customs and Excise, which together contribute considerably more than One-Half to the National Income of the United Kingdom, was as follows in the financial year ending March 31, 1877:—

Customs Duties on Articles usually contributing not less than £1,000 Annually.	Gross Receipts. £	s.	d.
Beer, Spruce	2,836	0	0
—— Of other Sorts, including Mum	1,137	0	0
Chicory	61,723	0	0
Cocoa, Cocoa Husks, and Chocolate	44,138	0	0
Coffee	203,445	0	0
Currants	333,498	0	0
Figs	34,784	0	0
Plate, Gold, and Silver	8,040	0	0
Plums, Dried or Preserved, French Plums and Prunelloes	2,621	0	0
Prunes	6,539	0	0
Raisins	152,041	0	0
Spirits, Colonial and Foreign:—			
Rum	2,516,589	0	0
Brandy	2,306,747	0	0
Geneva	117,458	0	0
Of other sorts	831,783	0	0
Tea	3,725,941	0	0
Tobacco and Snuff	7,864,113	0	0
Wine	1,741,430	0	0
All other Articles	2,958	0	0
Loss on Light Gold	—		
Charges on deliveries from the Bonded Warehouses	37,052	0	0
	£19,994,881	0	0
Duties collected at the Isle of Man	49,381	0	0
Payments on Account thereof, under 29 & 30 Vict., c. 23	—		
Total Customs	£20,044,263	0	0
Drawbacks, Repayments, &c.	147,877	0	0
Net Produce	£19,896,386	0	0

Excise Duties.	Gross Receipts. £	s.	d.
Chicory	2,942	0	0
Licences, viz.:			
Auctioneers, Appraisers, &c.	75,054	0	0
Beer, Cider, and Perry	372,991	0	0
Brewers	446,037	0	0
Dog	349,743	0	0
Establishment, viz.:			
Armorial Bearings	82,478	0	0
Carriages	553,743	0	0
Horses			
Male Servants	167,561	0	0
Game	200,302	0	0
Gold and Silver Plate	41,280	0	0
Gun	77,210	0	0
Hawkers and Pedlars	23,198	0	0
Maltsters	15,472	0	0
Medicine Vendors	3,955	0	0
Pawnbrokers	32,520	0	0
Refreshment Houses	8,235	0	0
Spirit (Distillers, Dealers, and Publicans)	811,814	0	0
Tobacco	87,766	0	0
Wine and Sweets	210,675	0	0
Other than the foregoing	7,558	0	0
Malt	8,274,645	0	0
Railways	728,728	0	0
Spirits	15,346,369	0	0
Sugar used in Brewing	487,766	0	0
Total Excise	£28,408,051	0	0
Deductions on account of Drawbacks, Discounts, Parliamentary Allowances, Repayments, &c.	£726,529	0	0
Net Produce	£27,681,522	0	0

Stamps.—The following table gives the gross receipts from Stamps in the United Kingdom during the year ended the 31st of March, 1877:—

Heads of Duty.	Gross Receipts. £	s.	d.
Probates of Wills and Letters of Administration	2,339,914	0	0
Legacies and Successions	3,684,444	0	0
Total Probate and Legacy Duties	6,024,359	0	0
Deeds and other Instruments, not included under the following heads	2,114,918	0	0
Bills of Exchange	780,434	0	0
Bankers' Notes	975	0	0
Composition for the Duties on the Bills and Notes of the Banks of England and Ireland, and of Country Bankers	140,852	0	0
Cards	13,928	0	0
Gold and Silver Plate	82,027	0	0
Licences and Certificates	142,874	0	0
Marine Insurances	119,982	0	0
Medicine	118,221	0	0
Patents for Inventions	169,042	0	0
Receipts, Drafts and other 1*d.* Stamps	816,991	0	0
Total Stamps, exclusive of Fee Stamps	10,524,607	0	0

Heads of Duty.	Gross Receipts. £	s.	d.
Fee Stamps, viz.:			
Admiralty Court (Ireland)	782	0	0
Bankruptcy Court	73,649	0	0
Chancery Court (Ireland)	14,304	0	0
Chancery Fund (Ireland)	3,728	0	0
Chimney Sweepers' Certificate	150	0	0
Civil Bill Fund (Ireland)	17,431	0	0
Civil Service Commission	5,433	0	0
Coal Mines Regulation	750	0	0
Companies Registration	16,160	0	0
Copyhold, &c., Commission	7,129	0	0
Crown Office	3,598	0	0
Divorce and Matrimonial Causes (Ireland)	94	0	0
Explosive Substances	149	0	0
Great Seal Patent	249	0	0
Judgments Registry Fund (Ireland)	2,729	0	0
Judicature	195,901	0	0
,, Probate Court (England)	129,995	0	0
Land Registry (England)	827	0	0
Law Courts (Scotland)	4,655	0	0
Law Fund (Ireland)	9,623	0	0
London Gazette	26,739	0	0
Lord Chancellor's Presentation	565	0	0
Naturalisation	311	0	0
Pedlars' Certificates (Metropolis)	1,265	0	0
Police Courts	8,031	0	0
Probate Court (Ireland)	18,210	0	0
Public Record	555	0	0
Railway Commission	517	0	0
Record of Title (Ireland)	31	0	0
RegisterHouse (Scotland)	44,146	0	0
Registration of Deeds (Ireland)	14,171	0	0
Total Fee Stamps	£601,885	0	0
Total Stamps	£11,126,493	0	0
Drawbacks, Discounts, Allowances, &c.	£249,430	0	0
Net Produce	£10,877,063	0	0

NATIONAL REVENUE FROM 1857 TO 1877.—The following table shows the total gross Revenue in each of the financial years ended March 31, from 1857 to 1877, inclusive, and the proportion of receipts per head of population of the United Kingdom:—

Year ended March 31.	Revenue. £	Proportion per head of Population. £	s.	d.
1857	72,334,062	2	12	1
1858	67,881,513	2	8	3
1859	65,477,284	2	6	3
1860	71,089,669	2	9	10
1861	70,283,674	2	8	11
1862	69,674,479	2	8	3
1863	70,603,561	2	8	4
1864	70,208,964	2	7	7
1865	70,313,437	2	7	0
1866	67,812,292	2	5	1
1867	69,434,568	2	5	8
1868	69,600,218	2	5	6
1869	72,591,991	2	6	8
1870	75,434,252	2	8	4
1871	69,945,220	2	4	5
1872	74,708,314	2	7	3
1873	76,608,770	2	8	2
1874	77,335,657	2	8	2
1875	74,921,873	2	6	3
1876	77,131,693	2	7	1
1877	78,565,036	2	7	6

NATIONAL EXPENDITURE FROM 1857 to 1877.—The following table shows the total amount of National Expenditure for each of the financial years ended March 31, from 1857 to 1877, inclusive, and the proportion of receipts per head of population of the United Kingdom:—

Year ended March 31.	Expenditure. £	Proportion per Head of Population. £	s.	d.
1857	75,588,667	2	14	4
1858	68,128,859	2	8	5
1859	64,663,882	2	5	8
1860	69,502,289	2	8	8
1861	72,792,059	2	10	8
1862	71,116,485	2	9	11
1863	69,302,008	2	8	2
1864	67,056,286	2	6	0
1865	66,462,207	2	5	0
1866	65,914,357	2	4	2
1867	66,780,396	2	4	0
1868	71,236,242	2	6	6
1869	72,069,961 2,902,855	2	8	6
1870	68,864,752	2	4	0
1871	69,548,539	2	4	3
1872	71,490,020	2	5	0
1873	70,714,448	2	4	5
1874	76,466,510	2	7	7
1875	74,328,040	2	5	10
1876	76,621,773	2	6	10
1877	78,125,227	2	7	2

NATIONAL DEBT.—The following table shows the total amount of the Funded Debt of the United Kingdom on the 31st of March, 1876, the Debt created and reduced in the year ended 31st March, 1877, and the balance at the latter date:—

	£	s.	d.
Total Funded Debt on 31st March, 1876 .	713,657,517	8	7
Debt created in year ended 31st March, 1877.	284,406	0	8
Total	713,941,923	9	3
Debt reduced in year ended 31st March, 1877.	1,320,568	5	6
Balance, being total Funded Debt on 31st March, 1877. . .	712,621,355	3	9

The following table shows the state of the above Public Funded Debt of the United Kingdom on 31st March, 1877:—

Capital Funded Debt:— Great Britain.	Capitals. £	s.	d.
New Annuities, at 2½ per cent.	3,774,278	9	9
Exchequer Bonds, created per 16 Vict., c. 23, at 2½ per cent.	418,300	0	0
Total, at 2½ per cent .	£4,192,578	9	9
Debt due to the Bank of England, at 3 per cent.	11,015,100	0	0
Consolidated Annuities, at 3 per cent.	389,069,600	16	11
Reduced Annuities, at 3 per cent. . . .	94,014,033	16	2
New Annuities, at 3 per cent.	179,576,658	6	8
Total, at 3 per cent. .	£673,675,392	19	9
New Annuities, at 3½ per cent.	225,746	6	4
Total, Great Britain	£678,093,717	15	10

Ireland.	£	s.	d.
New Annuities, at 2½ per cent.	2,330	0	0
Debt due to the Bank of Ireland, at 3 per cent.	2,630,769	4	8
Consolidated Annuities, at 3 per cent..	5,139,119	8	3
Reduced Annuities, at 3 per cent. . . .	134,126	14	6

Ireland.	Capital. £	s.	d.
New Annuities, at 3 per cent.	26,621,292	0	6
Total, at 3 per cent. .	£34,525,307	7	11
Total, Ireland . . .	£34,527,637	7	11
Total Capital of the Funded Debt of the United Kingdom, on 31st March, 1877 .	712,621,355	3	9

CHARGES ON NATIONAL DEBT.—The following table shows the annual charges on the Funded Debt of the United Kingdom, in the year ended the 31st of March, 1877:—

	Annual Charge. £	s.	d.
Funded Debt	21,389,835	19	10
Terminable Annuities:			
Annuities, per 18 Vict., c. 18, expiring 5 April, 1885. . .	116,000	0	0
Annuities, per 23 & 24 Vict., c. 109, and subsequent Acts, expiring 5 April, 1885 (Fortifications) . .	575,291	0	0
Annuity, per 26 Vict., c. 14, expiring 5 April, 1885. . .	9,983	7	3
Annuities, per 32 & 33 Vict., c. 59, and 29 Vict., c. 5, expiring at various dates in 1885 (payable yearly)	3,617,845	0	0
Annuities, per 35 & 36 Vict., c. 68, expiring 29th March, and 1st August, 1885, "The Military Forces Localization Act" .	65,486	0	0
Red Sea and India Telegraph Company's Annuity, 25 & 26 Vict., c. 39, expiring 4th August, 1908 .	36,000	0	0
Sinking Fund Annuity on New 2½ per Cents., per 33 & 34 Vict., c. 71, s. 69 .	6,906	14	7
Annuities for Terms of Years, per 10 Geo. 4, c. 24, and 3 Will. 4, c. 14, expiring at various periods	41,401	12	0
Life Annuities, per 10 Geo. 4, c. 24, 3 Will. 4, c. 14, 16 & 17 Vict. c. 45, and 27 & 28 Vict. c. 43 . . .	914,043	6	6
Exchequer Tontine Annuities, per 29 Geo. 3	13,092	1	1

	Annual Charge. £	s.	d.
Management:			
Great Britain . . .	212,144	1	3
Ireland	9,749	19	6
Total amount of charge on 31st March, 1875.	27,007,779	2	0
Charges on Debt created in the year ended 31st March, 1877:—			
Funded Debt . . .	2,314	11	3
	6,217	12	4
Terminable Annuities:—			
Annuities (expiring 1885) granted per 32 & 33 Vict., c. 76 (Fortifications) . .			
Annuities (expiring 1885) granted per 35 & 36 Vict., c. 68, "The Military Forces Localization Act." .	118,272	0	0
Annuities for Terms of Years, per 10 Geo. 4, c. 24	1,508	12	6
Life Annuities, per 10 Geo. 4, c. 24, 16 & 17 Vict., c. 45, and 27 & 28 Vict., c. 43	76,118	18	10
Total Funded Charge created in the year ended 31st March, 1877	204,431	14	11
Total	£27,212,210	16	11

BULLION AND SPECIE.—The total value of the imports of gold and silver in 1876 was 37,054,000*l.*, against 33,264,000*l.* in 1875, being an increase of 3,790,000*l.* The total exports in the same periods were 29,464,000*l.* and 27,628,000*l.*, giving an increase of 1,836,000*l.* in favour of 1876. The imports and exports of gold and silver stated separately for the two years were—

		Imports. £	Exports. £
Gold	1875 ..	23,140,834	18,648,296
	1876 ..	23,475,975	16,515,748
Silver	1875 ..	10,123,955	8,979,746
	1876 ..	13,578,269	12,948,334

the general result being, that whilst the importation of gold has practically remained at the same amount for the two years, the importation of silver has increased by 3,454,000*l.*, and that whilst the export of gold has diminished by 2,133,000*l.* the export of silver was larger by 4,000,000*l.* than in 1875. The excess of imports over exports for the year, taking the bullion and specie of both kinds together, was 7,590,000*l.*, or an increase of excess of 1,954,000*l.* on comparing the like particulars in 1875. The balance on the import side, taking the two years together, was 13,230,000*l.* Of gold Australia sent nearly 5,000,000*l.*, the United States 4,371,000*l.*, South America 2,442,000*l.*, British India 1,290,000*l.*, Japan 1,171,000*l.*, and the Continental countries 7,606,000*l.* Silver was mainly contributed by Germany, France, Mexico, the South American Republics, and the United States. The largest supply from any one country was that of 5,364,000*l.* from Germany, a result that might have been expected from the process that has been going on for some time of demonetizing her silver coinage. The United States furnished 2,637,000*l.*, Mexico and South America 3,143,000*l.*, and British India about 220,000*l.* From the Continent (exclusive of Germany) we received 2,000,000*l.*, of which France supplied 1,340,000*l.*

COINAGE OF THE ROYAL MINT.—The amount of gold, silver, and copper moneys coined at the Royal Mint in each year from 1859 to 1876 was as follows:—

Years.	Gold. £	Silver. £	Copper. £
1859	2,649,509	647,064	8,512
1860	3,121,709	218,403	37,990
1861	8,190,170	209,484	273,578
1862	7,836,413	148,518	352,800
1863	6,997,212	161,172	151,648
1864	9,535,597	535,194	18,069
1865	2,367,614	501,732	57,493
1866	5,076,676	493,416	50,624
1867	496,397	193,842	33,301
1868	1,653,384	301,356	16,328
1869	7,372,204	76,428	20,832
1870	2,313,384	336,798	32,704
1871	9,919,656	701,514	7,616
1872	15,261,442	1,243,836	47,413
1873	3,384,568	1,081,674	46,218
1874	1,461,565	890,604	65,632
1875	243,264	594,000	69,813
1876	4,711,459	234,232	61,450

THE MINT.—The seventh annual report of the Deputy-Master of the Mint opens with an allusion to the break-down of the machinery, which stopped the operation of coinage for nearly five months during the year 1876. The amount of coinage was therefore comparatively trifling; yet the value struck, including contract work, exceeded 5,000,000*l.* The total number of pieces struck at the Mint was 11,239,050; adding the pieces of bronze coinage executed by contract, the whole of British coins struck during the year amounted to 30,036,410 in number and to 5,007,142*l.*

6*s.* 3*d.* in value. The gold coinage in all was 4,711,459*l.* 10*s.*; 3,318,866*l.* represented the total amount in sovereigns, and 1,392,593*l.* 10*s.* in half-sovereigns. The amount of silver coined was 234,232*l.*; in round numbers the value of the half-crowns was 79,000*l.*; florins, 58,000*l.*; shillings, 53,000*l.*; sixpences, 21,000*l.*; and threepences, 23,000*l.* Fourpenny, twopenny, and penny pieces were only coined as Maundy money. The bronze coinage amounted to 61,450*l.* 13*s.* 4*d.* The total of the pennies was 46,000*l.*, of the halfpennies 14,000*l.*, and of the farthings 1,120*l.* The light gold coin withdrawn from circulation by the Bank of England and sent to the Mint for recoinage during the year was only 638,575*l.*; the corresponding amount in 1875 was 2,129,000*l.* and 950,000*l.* in 1874. In the appendix to Mr. Freemantle's report is printed a series of tables of the coinage operations of the Royal Mint for the decade ended with 1876. The total value of gold coin minted was 46,802,517*l.*; the number of sovereigns being 38,569,201 and of that value; the half-sovereigns were in number 16,466,669—value 8,233,335*l.* The gold pieces in the ten years exceeded 55,000,000. The total value of the silver coined was 5,642,406*l.*; the total amount which the Mint paid for silver bullion was 4,096,612*l.*—this for nine years; none was bought in 1876. Half-crowns were only coined during the last three years of the decade; in that time nearly 4,000,000 were struck off, their value being 491,436*l.* Counting all the silver pieces, there were upwards of 110,000,000 coined from 1867 to 1876. The value of the bronze coinage is placed at 401,309*l.*; the total sum which the authorities paid for bronze bullion and odd copper coin was 111,776*l.* 15*s.* The pennies coined were 68,000,000—value, 283,136*l.*; halfpennies 41,750,000—value 86,987; the farthings numbered close upon 30,000,000—value 31,187*l.* The quantity of metal consumed in bronze coinage was 18,970 cwt. The statistics of worn silver are curious. During the ten years the Mint purchased 4,583,265 ounces of worn silver for exchange; the nominal value was 1,545,305*l.*, the "Mint value," at 5*s.* 6*d.* per ounce, was 1,260,392*l.*; the consequent loss by exchange was 194,913*l.* The price of silver during the time under notice fluctuated greatly. The price at which the Mint bought in 1867 was 60¼*d.* per ounce; it remained about that figure down to 1873, when silver fell to 58 13-16*d.*; in 1874 it was 58 12-16*d.*; and in 1875 it was 56 14-16*d.* For the first time during several years the Mint expenses have exceeded profits. That result the Deputy-Master ascribes to the breakdown of the machinery, which precluded silver coinage and all consequent profit. The profit on bronze pieces was 44,289*l.* A curious item is the "amount received from sweepings from the gold coinage"—this was 1,245*l.* 14*s.* 10*d.* in 1876.

Loan Societies.—The central office for the registry of friendly societies has issued the abstract of loan societies in England and Wales for 1876. The account comprises the transactions of 375 societies, but only four of that number are found in Wales, where these institutions appear to be little favoured. On the 1st of December last the number of members was 30,248. The money actually advanced and paid by depositors and shareholders during the year was 155,065*l.*; the sum in borrowers' hands at the close of the year amounted to 346,975*l.*; the whole sum circulated during the year was 554,480*l.* The various societies had 114,517 applications for loans made to them during the twelvemonths; the majority of these applications were successful, since 106,537 loans were granted in the time stated; nearly 8,000 applications failed. The forms used by the societies apparently yield a steady profit, as the sum paid for them was 6,391*l.*; this is fully 4 per cent. on the money advanced by depositors and shareholders in the year. Interest paid by borrowers or sureties in the year, 28,315*l.*, hence the charge to borrowers for interest and for forms was 34,676*l.* Probably the amount of loans in the hands of borrowers on the 31st of December fairly represents the average sum loaned out during the year; if so, the borrowers pay in all—*i.e.*, interest and forms—10 per cent. The expenses of management were 16,707*l.*; net profits, after paying the last-named item, 17,029*l.*; loss during the year (whether of capital or interest, or of both, not stated), 2,218*l.* The number of summonses issued in the year was 7,237, and of distress warrants 1,299; this was somewhat more than 1 in 6 of the summonses. The total money for the recovery of which summonses were issued was 15,830*l.*, consequently the debtors in default owed on the average 2*l.* 3*s.* 9*d.* each. The sum recovered out of the 15,830*l.* was 13,359*l.* Hence there was seemingly an ultimate loss to the societies from this portion of their customers of 2,471*l.* The amount of costs for these proceedings in recovery which the societies incurred was 1,881*l.* The costs paid by borrowers or by their sureties were 1,467*l.* Loan societies exist largely in Middlesex—more than one-third of the whole, *i.e.*, 132, are to be found there; in Surrey there are 44 societies; in Lancashire there are 38 societies.

Promissory Notes.—The total value of the Promissory Notes payable to bearer on demand in the United Kingdom at four specified periods in 1876 was as follows: on March 18th, 44,339,068*l.*; on June 10th, 46,850,212*l.*; on September 3rd, 46,177,370*l.*; and on December 23rd, 46,865,320*l.*

BANK RATE.—The following Table shows the Average Minimum Rate per cent. of Discount charged by the Bank of England in each Month, in each Year from 1863 to 1876:—

Months.	1863.	1864.	1865.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.
January	4½	7½	5½	8	3½	2	3	3	2½	3	4½	3½	4½	4½
February	4½	7	5	7½	3	2	3	3	2½	3	3½	3½	3½	4
March	4	6	4½	6½	3	2	3	3	3	3	3½	3½	3½	3½
April	3½	6½	4	6	3	2	4	3	2½	3½	4	3½	3½	2½
May	3½	8	4½	9½	3	2	4½	3	2½	4½	5½	4	3½	2
June	4	6½	3½	10	2½	2	4	3	2½	3½	6½	2½	3½	2
July	4	6½	3½	10	2½	2	3½	3½	2½	3½	4½	3	3	2
August	4	8	4	8½	2	2	2½	5	2	3½	3½	3½	2½	2
September	4	9	4	5	2	2	2½	3½	2½	3½	3½	3	2	2
October	4	9	7	4½	2	2	2½	2½	2½	5½	6	3½	3½	2
November	5½	8	6½	4	2	2½	3	2½	4½	6½	8½	4½	3½	2
December	7½	6½	6½	3½	2	3	3	2½	3½	5½	5½	6	3	2
Average for the Year	4½	7½	4½	7	2½	2¼	3½	3½	2½	4½	4½	3½	3½	2½

PRICE OF STOCK.—The following Table shows the average price per 100*l.* of the Three per Cent. Consolidated Stock of the Public Funds of the United Kingdom in each Month, in each Year from 1863 to 1876:—

Months.	1863.	1864.	1865.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.
January	92⅝	91	89⅞	87½	90⅜	92⅝	92⅞	92⅜	92⅜	92⅝	92½	92½	92⅜	93⅞
February	92½	91	89¼	87⅛	90⅞	93⅛	93	92½	91½	92¼	92¼	92⅛	92 13/16	94 3/16
March	92⅝	91⅜	89	87	91	93½	92⅞	92⅞	92	92⅛	92⅛	92	93	94 1/16
April	92⅝	91½	91	86⅝	90¾	93½	93⅛	93⅜	93	92¼	93¼	92½	93½	94 15/16
May	93½	91½	90⅜	86½	92⅛	94⅞	93	94⅛	93½	93⅛	93½	93½	94	96
June	92	90⅜	89⅜	86½	94⅛	94⅞	92⅝	92¼	92	92⅜	92½	92⅝	93	94¼
July	92¾	90¼	90	87⅜	94⅛	94⅝	93	91 13/16	93¼	92⅛	92½	92 7/16	94¼	95¼
August	93	89½	89⅜	88¼	94⅛	94	93	90¼	93⅛	92⅛	92¼	92½	94⅛	96 7/16
September	93½	88	89¼	89¼	94⅝	94½	92⅞	92	93½	92⅜	92½	92⅝	94⅜	95⅜
October	93	88½	88¾	89⅜	94⅞	94⅛	93⅜	92½	92¾	92¼	92½	91¾	94 5/16	95 7/16
November	92½	90⅜	89¼	89¼	94⅛	94½	93⅜	92¾	93¼	92⅜	92⅜	93½	94⅜	95¼
December	91	89¼	87⅞	89	92¼	92⅜	92½	97⅜	92¼	91⅝	92	91⅝	93⅜	94
Average for the Year	92⅝	90½	89½	88	93	93⅜	92⅜	92½	92¾	92½	92½	92½	93¾	95

NATIONAL DEBT.—The following Table shows the total amount of the National Debt at the end of each financial year from 1862 to 1877 inclusive:—

Financial Years ended 31st March	Funded Debt. Capital of Unredeemed Funded Debt, inclusive of Unclaimed Stock and Dividends.	Funded Debt. Estimated Capital of Terminable Annuities (Computed in 3 per Cent. Stock).	Amount of Unfunded Debt.	Total Amount of National Debt, inclusive of Unclaimed Stock and Dividends.
	£	£	£	£
1862	788,229,618	19,388,876	16,517,900	824,136,394
1863	787,422,928	20,716,727	16,495,400	824,635,055
1864	781,712,401	26,442,428*	13,136,000	821,290,829
1865	780,202,104	25,408,370	10,742,500	816,352,974
1866	773,941,190	25,435,034	8,187,700	807,563,924
1867	770,188,625	27,521,513	7,956,800	805,666,938
1868	741,844,981†	56,816,803†	7,911,100	806,572,884
1869	741,112,640	55,471,424	8,896,100	805,480,164
1870	741,514,681	53,130,380	6,761,500	801,406,561
1871	732,043,270	57,969,885	6,091,000	796,104,155
1872	731,756,962	55,749,070	5,155,100	792,661,132
1873	727,374,082	53,558,580	4,829,100	785,761,762
1874	723,514,005	51,289,640	4,479,600	779,283,245
1875	714,797,715	55,311,671	5,239,000	775,348,386
1876	713,657,517	51,911,227	11,401,800‡	776,970,544
1877	712,621,355	49,308,558	13,943,800§	775,873,713

* In 1864 the sum of 5,000,000*l.* of the Unredeemed Funded Debt was cancelled, and a Terminable Annuity created in lieu thereof, under the 26th Vict., cap. 25, sect. 2.

† Alterations in amounts of Capital of Unredeemed Funded Debt and of Terminable Annuities chiefly caused by the conversion, in 1868, of Stock into Terminable Annuities.

‡ Including Bonds (Suez Canal) to the amount of 4,000,000*l.* in 1876.

§ Do. do. do. 3,990,000*l.* in 1877.

EXCHEQUER BALANCES.—The following Table shows the Balances in the Exchequer at the end of each Financial Year from 1862 to 1877 inclusive:—

Financial Years ended 31st March.	Amount.
	£
1862..	5,288,676
1863..	7,263,839
1864..	7,352,548
1865..	7,690,922
1866..	5,851,314
1867..	7,294,151
1868..	4,781,846
1869..	4,707,258*
1870..	8,606,647
1871..	7,023,435
1872..	9,342,652
1873..	11,992,705
1874..	7,442,854
1875..	6,265,322
1876..	5,119,587
1877..	5,988,650

* Including 1,000,000*l.* advanced by the Bank of England in aid of Ways and Means.

MISCELLANEOUS REVENUE.—The following is a detailed statement of the amount received into the Exchequer, in the year ended the 31st March, 1877 under the head of Miscellaneou Revenues:—

	£	s.	d.
Small Branches of the Hereditary Revenue . . .	56,857	3	10
Bk. of Eng. (Profits of Issue)	138,578	0	0
Egypt. Gov. [Suez Canal]	139,110	2	3
Interest on Public Loans .	654,572	6	11
Fees, &c., of Public Offices	762,918	6	1
Receipts by Naval and Military Departments . .	902,535	11	11
Magee Indemnity . , .	4,233	9	10
From Indian Revenues .	896,356	19	9
Ashantee Expedition . .	883	16	8
Army Purchase Comm. .	24,472	4	0
Receipts by Civil Departments	481,533	16	6
Receipts by Revenue Departments	356,097	8	5
Income of Gazettes . . .	6,209	9	0
Savings on Grants of Parliament, &c.	20,338	19	8
Treasury Chest	15,804	19	11
Isle of Man	9,228	3	7
Greek Loan	15,833	7	0
Casual Receipts	2.471	14	9
Total Misc. Rev. .	£4,490,036	0	1

2. GENERAL COMMERCE AND NAVIGATION.

NAVIGATION RETURNS.—The subjoined table shows the tonnage of British and Foreign vessels (sailing and steam) entered and cleared, *with cargoes*, at ports in the United Kingdom, from and to foreign countries and British Possessions, from 1859 to 1876:—

Years.	Entered.			Cleared.		
	British.	Foreign.	Total.	British.	Foreign.	Total.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1859 ..	5,391,925	3,698,718	9,090,643	6,222,746	4,021,217	10,243,963
1860 ..	5,760,537	4,294,444	10,054,981	6,358,917	4,424,020	10,782,937
1861 ..	6,307,737	4,297,442	10,605,179	6,841,808	4,477,996	11,319,804
1862 ..	6,591,654	4,149,154	10,740,808	7,400,454	4,309,395	11,709,849
1863 ..	7,302,039	3,835,319	11,137,358	7,961,008	3,926,797	11,887,805
1864 ..	7,813,179	3,488,931	11,302,110	8,596,234	3,576,540	12,172,774
1865 ..	8,356,914	3,801,780	12,158,694	9,056,729	3,770,422	12,827,151
1866 ..	9,215,820	4,061,370	13,277,190	9,954,147	4,055,947	14,010,094
1867 ..	9,356,814	3,984,634	13,341,448	10,586,058	4,261,523	14,847,581
1868 ..	9,572,450	4,279,207	13,851,657	10,902,171	4,570,848	15,473,019
1869 ..	10,042,182	4,444,518	14,486,700	11,313,757	4,603,227	15,916,984
1870 ..	10,308,952	4,601,790	14,910,742	11,934,087	4,779,851	16,713,938
1871 ..	11,250,120	5,205,222	16,455,342	13,396,583	5,650,872	19,047,455
1872 ..	12,139,805	5,766,135	17,905,940	13,574,471	5,673,881	19,248,352
1873 ..	12,474,912	6,320,145	18,795,057	13,653,030	5,486,335	19,139,365
1874 ..	12,751,128	6,330,278	19,081,406	14,010,786	5,742,701	19,753,487
1875 ..	12,852,351	6,187,577	19,039,928	14,454 989	5,958,750	20,413,739
1876 ..	13,672,122	7,354,549	21,026,671	28,873,724	13,663,660	42,537,384

IMPORTS INTO THE UNITED KINGDOM.—The following table gives the quantities of the chief articles imported into the United Kingdom in the year ended the 31st of December, 1876:—

Articles.		Quantity.
Animals:—		
Oxen, Bulls, Cows, and Calves	No.	271,576
Sheep and Lambs	,,	1,041,329
Bacon and Hams	Cwts.	3,181,569
Beef	,,	413,351
Bones, except Whalefins	Tons	95,648
Brimstone	Cwts.	876,490
Bristles	Lbs.	2,514,231
Butter	Cwts.	1,659,492
Candles, Stearine	,,	81,514
Caoutchouc	,,	158,692
Cheese	,,	1,531,204
Clocks	No.	601,029
Cocoa	Lbs.	20,443,591
Coffee	Cwts.	1,361,642
Corn, Wheat	,,	44,454,657
—— Barley	,,	9,772,945
—— Oats	,,	11,211,019
—— Maize	,,	39,963,369
—— Other kinds	,,	6,388,910
—— Flour of Wheat	,,	5,959,821
—— —— Of other kinds.	,,	224,875
Total of Corn	,,	117,975,596
Cotton, Raw	,,	13,284,454
Dyeing (or Tanning) Stuffs:—		
Cochineal, Granilla, and Dust	Cwts.	30,440
Cutch and Gambier	Tons	26,564
Garancine	Cwts.	15,398
Indigo	,,	88,722
Madder	,,	25,570
Madder Root	,,	34,243
Shumach	Tons	12,797
Valonia	,,	34,923
Eggs	No.	753,026,040
Fish	Cwts.	966,119
Flax and Hemp:—		
Flax, Dressed and Undressed	,,	1,104,259
Tow or Codilla of Flax and Hemp	,,	370,157
Hemp and other like Substances (except Jute), Dressed and Undressed	,,	1,140,248
Jute	,,	3,825,259
Fruits:—		
Currants	,,	1,125,949
Raisins	,,	583,860
Oranges and Lemons	Bush.	2,968,650
Glass of all Kinds	Cwts.	1,060,361
Guano	Tons	199,291
Gutta-percha	Cwts.	21,577
Hair:—		
Goats' Hair or Wool	Lbs.	5,988,473
Hides, Tanned and Untanned	Cwts.	1,455,297
Hops	,,	167,366

Articles.		Quantity.
Lard	Cwts.	562,174
Leather Gloves	Pairs	17,969,244
Meat, Salted	Cwts.	92,556
Preserved, other than Salted	,,	283,066
Metals:—		
Copper Ore and Regulus	Tons	102,857
Copper, Unwrought and part Wrought, and old Copper	Cwts.	837,440
Iron, in Bars	Tons	85,384
Iron and Steel Wrought or Manufactured	Cwts.	1,390,225
Lead, Pig and Sheet	Tons	80,649
Tin, in Blocks, Ingots, Bars, or Slabs, and Regulus	Cwts.	304,551
Zinc, Crude, in Cakes	Tons	29,327
—— Manufactures	Cwts.	294,218
Oil, Fish	Tuns	16,684
— Palm	Cwts.	879,824
— Cocoa Nut	,,	199,431
— Olive	Tuns	24,022
— Seed	,,	22,759
— Turpentine	Cwts.	236,026
Oil Seed Cake	Tons	190,281
Paper, for Printing or Writing	Cwts.	259,510
Petroleum, Unrefined	Galls.	475,272
—— Refined	,,	24,725,905
Pork	Cwts.	378,607
Potatoes	,,	6,023,936
Pyrites of Iron or Copper	Tons	504,752
Rags and Paper-making Materials:—		
Rags	,,	13,927
Esparto and other Materials	,,	147,518
Rice, not in the Husk	Cwts.	6,469,181
— In the Husk	Qrs.	320
Rosin	Cwts.	980,027
Saltpetre	,,	260,579
—— Cubic Nitre	,,	3,301,546
Seeds:—		
Clover and Grass	,,	387,813
Cotton	Tons	230,116
Flax and Linseed	Qrs.	1,996,684
Rape	,,	459,973
Silk Knubs or Husks and Waste	Cwts.	29,663
Silk, Raw	Lbs.	6,016,927
—— Thrown	,,	164,040
Skins:—		
Sheep and Lamb, Undressed	No.	7,598,967
Skins, Tanned, Tawed or Dressed	,,	5,566,381
Seal	,,	607,276
Goat, Undressed	,,	1,318,386
—— Tanned, Tawed or Dressed	,,	6,732,726
Spices:—		
Cinnamon	Lbs.	1,339,060
Pepper	,,	25,957,070
Of all other sorts	,,	14,495,696

Articles.		Quantity.
Spirits:—		
Rum	Pf. Gals.	10,395,335
Brandy	,,	7,913,092
Other Foreign and Colonial Spirits	,,	2,782,058
Total of Spirits.	,,	21,090,485
Sugar, Refined and Sugar Candy	Cwts.	2,796,414
—— Raw	,,	15,612,214
—— Molasses	,,	498,441
Tallow and Stearine	,,	1,344,445
Tea	Lbs.	185,536,371
Teeth, Elephants', Sea-Cow, and Sea Horse	Cwts.	12,538
Tobacco, Manufactured, Cigars, and Snuff	Lbs.	3,818,682
—— Unmanufactured	,,	76,814,974
Wine	Gals.	19,950,723
Wood and Timber:—		
Hewn	Loads	2,169,376
Sawn or Split	,,	4,118,192
Staves	,,	129,216
Mahogany	Tons	52,461
Wool,—Sheep, Lamb, Alpaca, and the Llama Tribe	Lbs.	390,055,759
Woollen Rags	Tons	28,847
Woollen and Worsted Yarn:—		
Berlin Wool and Yarn used for Fancy Purposes	Lbs.	841,878
Yarn for Weaving	,,	12,909,902
Yeast, Dried	Cwts.	165,492

EXPORTS OF HOME PRODUCE FROM THE UNITED KINGDOM.—The following table shows the quantities of the chief articles of British and Irish produce and manufactures exported from the United Kingdom in the year ended the 31st of December, 1876:—

Principal Articles.		Quantity.
Alkali	Cwts.	5,456,191
Animals: Horses	No.	2,659
Arms and Ammunition:—		
Firearms (Small)	No.	203,021
Gunpowder	Lbs.	14,268,672
Bags, Empty	Dozs.	4,020,211
Beer and Ale	Brls.	484,919
Books, Printed	Cwts.	82,089
Butter	,,	33,749
Candles, of all sorts	Lbs.	4,728,888
Carriages, Railway	No.	4,824
Cement	Cwts.	4,915,405
Cheese	,,	17,411
Coals, Cinders, and Fuel	Tons	16,299,077
Cordage and Twine	Cwts.	96,766
Corn: Wheat	,,	460,839
—— Wheat Flour	,,	27,316
Cotton Yarn	Lbs.	232,554,627

Principal Articles.		Quantity.
Cotton Manufactures:—		
Piece Goods, White or Plain	Yds.	2,667,423,176
——— Printed, Checked, or Dyed	,,	990,147,298
———, of Mixed Materials	,,	11,833,900
Total of Piece Goods	,,	3,669,404,374
Stockings	Doz. Prs.	1,105,666
Thread for Sewing	Lbs.	9,635,363
Fish: Herrings	Brls.	426,588
Glass: Plate	Sq. Ft.	1,779,628
——— Flint	Cwts.	90,485
——— Common Bottles	,,	559,978
——— Of other Sorts	,,	93,032
Hats of all Sorts	Dozs.	776,996
Leather, Tanned, Unwrought	Cwts.	149,911
——— Wrought, Boots and Shoes	Doz. Prs.	443,293
——— Of other Sorts	,,	1,509,874
Linen and Jute Yarn:		
Linen Yarn	,,	22,278,259
Jute Yarn	,,	16,709,239
Linen and Jute Manufactures:—		
Linen Manufactures: White or Plain	Yds.	146,666,075
Printed, Checked, or Dyed	,,	13,181,129
Sailcloth and Sails	,,	3,121,784
Total of Piece Goods	,,	162,968,988
Thread for Sewing	Lbs.	2,638,131
Jute Manufactures	Yds.	120,813,966
Metals:—		
Iron, Old, for remanufacture	Tons	22,591
——— Pig, and Puddled	,,	910,005
——— Bar, Angle, Bolt, and Rod	,,	227,945
——— Railroad, of all Sorts	,,	414,656
——— Wire	,,	44,613
——— Hoops, Sheets, and Boiler Plates	,,	191,982
——— Tinned Plates	,,	132,564
——— Cast or Wrought, and all other manufactures	,,	244,054
——— Steel, unwrought	,,	25,777
——— Manufactures of Steel, or of Steel and Iron combined	,,	10,283
Total of Iron and Steel	,,	2,224,470
Copper, Unwrought:—		
Ingots, Cakes or Slabs	Cwts.	238,223
Copper, Wrought or partly Wrought:—		
Mixed or Yellow Metal	Cwts.	255,076
Of other Sorts	,,	216,590
Brass of all Sorts	,,	93,368
Lead, Pig, Sheet and Pipe	Tons	35,921
Tin, Unwrought	Cwts.	99,217
Zinc, Wrought and Unwrought	,,	113,474
Oil, Seed	Gals.	18,237,304
Paper (other than Hangings)	Cwts.	287,135
Salt	Tons	865,804
Silk Manufactures:—		
Broad Piece Goods	Yds.	3,943 737
Soap	Cwts.	254,853
Spirits, British	Gals.	1,308,456
Sugar, Refined	Cwts.	1,192,277
Wool, Sheep and Lambs'	Lbs.	9,817,249
Woollen and Worsted Yarn	,,	30,854,160
Woollen and Worsted Manufactures:—		
Cloths, Coatings, &c., Unmixed and Mixed	Yds.	40,479,373
Flannels, Blankets, Blanketing, and Baizes	,,	13,902,304
Worsted Stuffs, Unmixed and Mixed	,,	221,561,999
Carpets and Druggets	,,	6,208,479

Exports of Foreign and Colonial Merchandise from the United Kingdom.—The following table gives the quantity of the exports of foreign and colonial merchandize from the United Kingdom, in the year ended the 31st of December, 1876:—

Articles.		Quantity.
Bark, Peruvian	Cwts.	33,965
Caoutchouc	,,	69,661
Chemical Manufactures and Products	Value	£102,231
Cocoa	Lbs.	7,569,837
Coffee	,,	137,176,301
Corn, Wheat	Cwts.	822,107
——— Wheat Meal or Flour	,,	14,316
Cotton, Raw	,,	1,815,231
Cotton Manufactures:—		
Piece Goods	Pieces	424,156
Other Articles	Value	£89,233
Drugs, Unenumerated	,,	305,405
Dyeing Stuffs:—		
Cochineal	Cwts.	17,025
Indigo	,,	57,314
Madder	,,	1,632
Madder Root	,,	512

Articles.		Quantity.
Flax and Hemp:—		
Flax, Dressed and Undressed. . .	Cwts.	11,045
Tow or Codilla of Hemp and Flax .	,,	18,048
Hemp and other like Substances (except Jute), Dressed and Undressed. . . .	,,	147,203
Jute	,,	933,667
Fruit:—		
Currants	,,	165,125
Raisins	,,	94,794
Guano	Tons	52,989
Hair, Manufactures of, and of Goats' Wool	Val.	£34,034
Hides, Tanned and Untanned . . .	Cwts.	359,376
Metals:—		
Copper, Unwrought, Part Wrought, and old Copper .	Tons	17,319
Iron in Bars, Unwrought . . .	,,	36,144
Zinc, Crude, in Cakes	,,	911
Tin, in Blocks, Ingots, Bars, or Slabs, and Regulus	Cwts.	105,008
Oil, Palm	,,	405,888
— Cocoa Nut . . .	,,	173,036
— Olive	Tuns	2,332
Opium	Lbs.	235,700
Quicksilver	,,	1,949,125
Rice, not in the Husk .	Cwts.	3,434,575
Saltpetre	,,	40,510
——— Cubic Nitre .	,,	199,230
Seeds, Flax and Linseed	Qrs.	85,989
—— Rape	,,	231,718
Silk, Raw	Lbs.	3,064,725
—— Thrown . . .	,,	50,202
Silk Manufactures . .	Val.	£303,054
Spices, Cinnamon . .	Lbs.	1,226,103
—— Pepper. . . .	,,	17,251,512
Spirits:—Proof		
Rum	Gals.	1,556,641
Brandy	,,	322,501
Geneva, and other Foreign and Colonial Spirits. .	,,	1,416,847
Total of Spirits	,,	3,295,989
Sugar, Foreign, Refined, and Candy .	Cwts.	198,147
—— Unrefined . . .	,,	790,282
—— Molasses . . .	,,	65,456
Tea	Lbs.	29,129,312
Teeth, Elephants', Sea Cow, and Sea Horse	Cwts.	6,828
Tobacco, Stemmed . .	Lbs.	929,864
——— Unstemmed. .	,,	10,875,877
——— Manufactured, viz:—		
Cigars.	Lbs.	260,499
Other Sorts	,,	1,401,499
Wine	Gals.	1,587,227
Wool, Sheep, Lamb, Alpaca, and Llama	Lbs.	173,020,372

Export Markets of the United Kingdom.—The following table, compiled from Returns of the Board of Trade, gives the declared value of the British and Irish produce exported from the United Kingdom to Foreign countries and British possessions in the year ended the 31st of December, 1876, first taking the exports to foreign countries:—

I. Foreign Countries.

Countries.	Value.
	£
Russia, Northern Ports . . .	5,033,256
——— Southern Ports . . .	1,149,582
Sweden and Norway	4,224,719
Denmark Proper and Iceland.	2,199,106
——— Danish West Indies.	257,334
Germany	20,082,262
Holland	11,777,192
——— Java, and other Possessions in the Indian Seas	1,676,193
Belgium	5,875,407
France	16,085,615
——— Algeria	209,696
——— Possessions in Senegambia	19,401
——— Possessions in India .	18,079
Portugal	2,231,191
——— Azores and Madeira.	177,282
Spain	3,992,365
—— Canary Islands . . .	148,011
—— Fernando Po	8,825
—— West India Islands . .	2,015,113
—— Philippine Islands . .	726,723
Italy	6,689,402
Austrian Territories . . .	784,634
Greece	866,643
Turkey	5,922,825
——— Wallachia and Moldavia	707,568
Egypt	2,630,407
Morocco	396,277
United States.	16,833,517
Mexico	502,224
Central America	715,732
Haiti and San Domingo. . .	356,447
New Granada (United States of Columbia)	783,183
Venezuela	679,163
Ecuador	225,273
Brazil	5,919,758
Uruguay	1,026,307
Argentine Republic	1,543,532
Chili	1,945,791
Peru	991,304
China (exclusive of Hong Kong)	4,611,180
Japan	2,032,685
Western Coast of Africa . .	970,756
Other Countries	758,020
Total to Foreign Countries .	135,779,980

II. British Possessions.

Countries.	Value. £
Channel Islands	585,591
Gibraltar	1,120,965
Malta	894,250
Ionian Islands (ceded to Greece 1st June, 1864)	—
North American Colonies:—	
Dominion of Canada	6,902,723
Newfoundland	455,428
Total to North American Colonies	7,358,151
West India Islands and Guiana	2,927,996
British Honduras	116,802
Australia:—	
West Australia	197,398
South Australia	2,121,884
Victoria	6,198,380
New South Wales	4,816,576
Queensland	893,490
Tasmania	256,472
New Zealand	3,190,802
Fiji Islands	6,659
Total to Australia	17,681,661
British India	22,405,420
The Straits Settlements	1,968,946
Ceylon	1,073,505
Hong Kong	3,080,376
Mauritius	342,249
Cape of Good Hope and Natal	4,368,841
West Africa Settlements	203,776
Possessions on the Gold Coast	515,713
Other Possessions	214,982
Total to British Possessions	64,859,224
Total to Foreign Countries and British Possessions	200,639,204

Import and Export Markets.—The total value of the imports from foreign countries in 1876 was 290,822,000*l*., and of those from British possessions 84,332,000*l*., figures almost identical with those shown for the year 1875. Under the head of Russia there is a falling off of 3,000,000*l*., attributable principally to a decrease in the supply of wheat and oats. The total value of the imports from this country stands at 17,574,488*l*. the lowest amount recorded since the year 1869. The produce of Russia, however, is sent very largely in transit through Germany and Holland to this country, so that the decrease is more apparent than real. Sweden and Norway show an increase of 1,800,000*l*. over the import values of 1875, the total amount being 10,700,000*l*. as against 8,900,000*l*. From these countries we imported—Grain of the value of 2,124,000*l*.; iron, wrought and unwrought, 1,264,000*l*.; wood and timber, 5,740,000*l*. Neither Denmark nor Germany presents any difference worthy of note in the import value account, and Holland, though showing an apparent increase of nearly two millions, can hardly lay claim to the excess as an indication of the progress of her own trade, although there is of course an element of wealth represented by the cost of transit of the produce of other countries over her canals and railways. The same remark applies in a great measure to Belgium. France is represented by a total value of 45,300,000*l*., being a decrease of 1,420,000*l*. when compared with the amount set down for 1875, and of 1,218,000*l*. in regard to the year 1874. The principal articles that show a falling off of any moment are those of cattle, corn, gloves, and sugar. At the same time there are some few instances of conspicuous increases, such as butter, brandy, wine, and woollen manufactures. In the year 1871, in consequence of the Franco-German war, the imports from France were at a low ebb, the value having been only 29,848,000*l*. In the following year they rose rapidly to 41,800,000*l*., or 40 per cent. In 1873 a small increase of 1½ millions took place, and in each of the years 1874 and 1875 the total value of the imports from France was practically the same, viz., about 46½ millions. The value of the imports from the United States of America was 75,899,000*l*., being an increase of 6,309,000*l*. on 1875. Of this increase, Indian corn alone represents 4,000,000*l*. The decline of 16,593,820*l*. in the total value of the exports to foreign countries is very generally spread throughout the whole of the countries affected, but is in no case so conspicuous as in that of the United States of America. The value of the exports to that country has fallen off from 21,868,279*l*. in 1875 to 16,833,517*l*. in 1876, or 23 per cent. in that short space of time, and we must go back 10 years to find the export trade represented by so small a sum. In the year 1864 the value of the British exports to the United States was 16,708,505*l*. For the two consecutive years it increased to 21¼ and 28⅝ millions respectively; it then fell during the years 1867 and 1868 to about 21½ millions; but from that time there was a rapid increase of from 3 to 6 millions per annum, until in 1872 it reached the highest sum in our records, viz., 40,736,597*l*. From that year the value has been on a rapidly descending scale, as will be seen from the following figures:—1872, 40,736,597*l*.; 1873, 33,574,664*l*.; 1874, 28,241,809*l*.; 1875, 21,868,279*l*.; 1876, 16,833,517*l*.; there having been an average decrease of 19¼ per cent. per annum during the period embraced between 1872 and 1876. The value of the exports to British possessions fell in 1876 to 64,859,224*l*., from 71,092,163*l*. in 1875.

Value of Imports and Exports, 1858–1876.—The Commissioners of Customs in their last report give the following Comparative Statement of the Total Value of Imports and Exports of Merchandise, including Bullion and Specie, into and from the United Kingdom in each year from 1858 to 1876, showing also the percentage excess of Imports over Exports in each year:—

Years.	Imports, including Bullion.	Exports.			Excess of Imports		Percentage Excess of Imports		Percentage Increase or Decrease of			
		British, including Bullion.	Foreign.	Total.	Over British Exports.	Over Exports, British and Foreign.	Over British Exports.	Over Exports, British and Foreign.	Imports over the preceding Year.		Total Exports over preceding Year.	
									Increase.	Decrease.	Increase.	Decrease
	£	£	£	£	£	£						
1858	194,077,022	136,237,632	23,174,023	159,411,655	57,839,390	34,665,367	42·4	21·1	—	—	—	—
1859	216,252,511	166,100,332	25,281,446	191,381,778	50,152,179	24,870,733	30·1	12·9	11·4	—	2.0	—
1860	233,509,069	161,425,995	28,630,124	190,056,119	72,083,074	43,452,950	44·6	22·8	7·9	—	—	·6
1861	236,232,069	145,914,462	34,529,684	180,444,146	90,317,607	55,787,923	61·8	30·9	1·1	—	—	5·
1862	257,373,452	153,318,455	42,175,870	195,494,325	104,054,997	61,879,127	67·8	31·1	8·9	—	8·3	—
1863	278,949,814	173,146,382	50,300,067	223,446,449	105,803,432	55,503,365	61·1	24·8	8·3	—	14·2	—
1864	302,680,448	183,581,353	52,170,561	235,751,914	119,099,095	66,218,534	64·8	28·3	8·5	—	5·5	—
1865	292,534,496	180,928,249	52,995,851	233,924,100	111,606,247	58,610,396	61·7	25·	—	3·3	—	·7
1866	329,577,413	210,556,147	49,988,146	260,544,293	110,921,266	69,033,120	56·5	26·4	12·6	—	11·3	—
1867	299,004,184	195,286,440	44,840,606	240,127,046	103,717,744	58,877,138	53·1	24·5	—	9·2	—	7·8
1868	319,546,203	199,897,826	48,100,642	247,998,468	119,648,377	71,547,735	59·8	28·8	6·8	—	3·2	—
1869	315,961,205	206,331,485	47,061,095	253,392,580	109,629,720	62,568,625	53·1	24·6	—	1·1	2·1	—
1870	332,713,161	218,506,512	44,493,755	263,000,267	114,206,649	69,712,894	52·2	26·5	5·3	—	3·7	—
1871	369,156,307	256,826,833	60,508,538	317,335,371	112,329,474	51,820,936	43·7	16·3	10·9	—	20·6	—
1872	384,301,636	286,593,208	58,331,487	344,924,695	97,708,428	39,376,941	34·	11·4	4·1	—	8·6	—
1873	404,886,603	284,063,888	55,840,162	339,904,050	120,822,715	64,982,553	42·5	19·1	5·3	—	—	1·4
1874	400,461,889	262,411,714	58,092,343	320,504,057	138,050,175	79,957,832	52·6	24·9	—	1·	—	5·7
1875	407,201,366	251,094,005	58,146,360	309,240,365	156,110,361	97,964,001	62·1	31·6	1·6	—	—	3·5
1876	412,208,947	230,103,286	56,137,398	286,240,684	182,105,661	125,968,263	79·1	44·	1·2	—	—	7·4

It will be observed from the above table that the aggregate value of the imports of each year has, with the exception of four years out of the 19, constantly increased, and that their value in the last of the years is more than double their value in the first. Making the same observation in respect of the exports, it will be seen that in no less than eight years of the series, there has been a decrease or decline of value from that of the preceding year, and that, comparing the value of the exports of the last year (1876) with that of the first (1858) it is far from arriving at the double of the value. The imports of 1876 have doubled those of 1858, with 24 (24,054,903*l.*) millions to spare, while the exports of 1876 have fallen short of the double of those of 1858 by 32½ millions (32,582,626*l.*).

3. TRADE AND AGRICULTURE.

COTTON.—The following table shows the quantity and value of raw cotton imported during the last 10 years, and the quantity and value of the exportations of cotton piece goods, the production of English looms in the same periods, with the average price of the imports and exports:—

Imports of Raw Cotton.

—	Quantity.	Value.	Average Price per Cwt.
	Cwts.	£	£ *s.* *d.*
1867	11,276,000	52,003,000	4 12 2
1868	11,864,000	55,194,000	4 13 0
1869	10,907,000	56,847,000	5 4 2
1870	11,959,000	53,478,000	4 9 5
1871	15,876,000	55,907,000	3 10 5
1872	12,579,000	53,381,000	4 4 10
1873	13,639,000	54,705,000	4 0 3
1874	13,990,000	50,696,000	3 12 6
1875	13,324,000	46,260,000	3 9 5
1876	13,284,000	40,181,000	3 0 5

Exports of Cotton Piece Goods.

—	Quantity.	Value.	Average Price per Yd.
	Yards.	£	*d.*
1867	2,832,023,707	53,128,163	4½
1868	2,977,106,551	50,265,116	4
1869	2,868,630,125	49,922,442	4⅜
1870	3,266,998,366	53,348,205	3⅝
1871	3,417,405,811	53,632,734	3½
1872	3,537,985,311	58,931,213	4
1873	3,483,735,585	56,493,182	3⅞
1874	3,606,639,044	55,022,645	3¾
1875	3,562,462,166	53,626,926	3½
1876	3,669,404,374	50,378,173	3½

Of the total quantity imported the United States sent 8,328,000 cwts., or about 800,000 cwts. more than in the previous year, whilst British India has sent 2,448,000 cwts., or about 965,000 cwts. less. We have imported cotton piece goods to the following extent, viz.—

	Pieces.	Value.
		£
Holland	275,000	68,000
France	535,000	200,000
India and China ..	117,000	53,000
United States ..	472,000	366,000

THE BOOK TRADE.—From the Annual Statement prepared at the Custom-House it appears that in the year 1876 the imports of books from abroad into the United Kingdom were of the weight of 13,897 cwts., and of the value of 150,099*l.*, the largest supplies being from France and Germany. Our exports of books comprised 82,089 cwts., of the value of 881,839*l.*, the production of the United Kingdom, besides foreign or Colonial books of the value of 12,723*l.* The largest export of English books was to Australia, the year's value being 334,136*l.*; and the export to British India was of the value of 79,778*l.*, to British North America 68,102*l.*, and to British South America 40,007*l.* Our exports of our books to the United States in 1876 were of the value of 191,966*l.*, and our imports of books from thence 18,473. Our imports of prints and engravings in 1876 comprised 5,654,377 in number, of the value of 50,017*l.*, coming almost entirely from France and Germany. Our exports of such articles consisted of our own produce to the value of 72,563*l.*, and foreign or colonial productions of the value of 2,251*l.*

AGRICULTURE OF THE UNITED KINGDOM.—The following Return shows the Acreage

under each Crop, and Fallow, and Grass, and Number of Live Stock, in Great Britain and Ireland upon 25th of June in 1870, 1872, 1874, and 1876:—

Description of Crops and Live Stock.	United Kingdom, including the Isle of Man and Channel Islands.			
	1870.	1872.	1874.	1876.
Corn Crops.	Acres.	Acres.	Acres.	Acres.
Wheat	3,500,543	3,598,957	3,630,300	2,994,957
Barley or Bere	2,371,739	2,316,332	2,287,987	2,533,109
Oats	2,763,300	2,705,837	2,596,384	2,789,530
Rye	65,166	66,875	47,228	56,210
Beans	530,095	524,005	559,044	517,556
Peas	317,198	361,545	310,547	293,407
Total	9,548,041	9,573,551	9,431,490	9,184,769
Green Crops.				
Potatoes	587,661	564,088	520,430	505,088
Turnips and Swedes	2,210,911	2,083,507	2,133,336	2,145,573
Mangold	306,531	329,190	322,614	347,889
Carrots	15,259	16,499	13,927	16,129
Cabbage, Kohl-Rabi, and Rape	143.930	177,800	169,285	179,475
Vetches, Lucerne, and any other Crop (except Clover or Grass)	322,438	445,299	421,678	380,089
Total	3,586,730	3,616,383	3,581,270	3,574,243
Other Crops, Grass, &c.				
Flax	23,957	15,357	9,394	7,641
Hops	60,594	61,927	65,805	69,999
Bare Fallow or Uncropped Arable Land	610.517	647,898	660,206	651,212
Clover Sanfoin, and Grasses under Rotation — For Hay	2,069,233	2,299,759	2,045,688	2,241,092
Clover Sanfoin, and Grasses under Rotation — Not for Hay	2,435,651	2,213.692	2,295,054	2,299,181
Total	4,504,884	4,513,451	4,340,742	4,540,273
Permanent Pasture (exclusive of Heath or Mountain Land) — For Hay	3,067,151	3,577,603	3,279,245	3,620,813
Permanent Pasture (exclusive of Heath or Mountain Land) — Not for Hay	9,005,705	8,998,003	9,898,767	9,895,131
Total	12,072,856	12,575,606	13,178,012	13,515,944
Orchards: Arable or Grass Land used also for Fruit Trees	Not ascertained.	169,808	150,526	157.287
Market Gardens		36,204	37,907	38,503
Nursery Gardens: for growing Trees, Shrubs, &c.		11,779	11,743	11,676
Woods, Coppices, and Plantations		2,187,078	2,187,078	2,187,078
Live Stock.	No.	No.	No.	No.
Horses: used solely for Agriculture, Mares kept solely for breeding, and unbroken Horses	1,266,709	1,258,020	1,311,739	1,374,576
Other kinds (subject to License Duty in Great Britain)	823,266	907,048	915.000	915,000
Cattle	5,403,317	5,624,994	6,125,941	5,846,302
Sheep	28,397,589	27,921,507	30,313,941	28,172,951
Pigs, exclusive of those kept in Towns and by Cottagers	2,171,138	2,771,749	2,422,832	2,293,620

ENGLISH RAILWAYS.—The following table from Captain Tyler's Report to the Board of Trade on English railways in 1876 affords a comparison between that and the preceding year:—

	1876.	1875.	Increase in 1876.	
			Amount.	Per Cnt.
Mileage	16,872	16,658	214	1·3
Double or more mileage	9,169	8,898	271	3·0
	£	£	£	
Capital	658,214,776	630,222,494	27,991,282	4·4
,, per mile open	39,012	37,833	1,179	3·1
Ordinary capital..	262,008,883	254,600,732	7,408,151	2·9
Traffic—				
Passenger	26,163,551	25,714,681	448,870	1·7
Goods	33,754,317	33,268,072	486,245	1·5
Miscellaneous	2,297,907	2,254,247	43,660	1·9
Total	62,215,775	61,237,000	978,775	1·6
Working expenditure	33,535,509	33,220,728	314,781	0·9
Net earnings	28,680,266	28,016,272	663,994	2·4
			Decrease in 1876.	
	d.	*d.*	*d.*	
Receipts per train-mile from passenger and goods traffic	66·66	67·56	0·90	1·3
Expenditure per train-mile, exclusive of harbour, &c., expenses	36·13	36·88	0·75	2·1
Net earnings per train-mile ..	30·53	30·68	0·15	0·5
			£	
Percentage of net earnings on capital	4·36	3·45	0·09	2·0
Dividend paid on ordinary capital ..	4·52*	4·72*	0·20	4·2

* These percentages, as noticed above, are calculated on amounts a little in excess of the true totals.

The final result of railway working in 1876 as shown in these figures may be stated in a very few words. The extent of the system has been increased very little during the year, only 1·3 per cent., but the double mileage has increased 3 per cent., showing the conversion of single into double miles. The capital at the same time has increased 4·4 per cent., but part of the increase is in nominal capital only; and the capital per mile open has increased 3·1 per cent. The ordinary capital, however, has increased more slowly than the total capital, or only 2·9 per cent. At the same time the traffic has increased 1·6 per cent., or rather less than the rate of increase of capital; but the working expenditure has increased more slowly still, or only 0·9 per cent.; so that the increase of net earnings is 2·4 per cent., more nearly approaching the rate of increase of capital. The receipts, expenditure, and net earnings per train-mile have all decreased slightly. The result is (1) a slight diminution of the percentage of net earnings on the whole capital, viz., from 4·45 to 4·36 per cent., a reduction which would be still less in reality to those concerned, allowing for the increase in nominal capital only as distinguished from an increase of actual capital outlay; and (2) a rather larger but still not a large diminution of the dividend paid on the ordinary capital, viz., from 4·72 to 4·52 per cent., a diminution which would also be less if allowance were made for the infusion of merely nominal capital. These are the results in a year in which the increase of traffic has been at a lower rate than at any time since 1858, the average rate having been in that period 5·26 per cent., whilst last year it was only 1·59 per cent. They are also the results at a time when the rate of working expenses is at a high level compared with the whole period prior to 1872. The result to railway capitalists in the circumstances cannot be deemed unfavourable on the average, though the average is, no doubt, composed in part of some unfavourable extremes. As regards the public use of railways, the facts stated

as to the increase of third-class traffic, as well as of minerals and goods conveyed, would appear to show that that use has been increased in 1876 in a greater degree than the return to the owners of the railway system.

SPIRITS.—Taking all kinds of unsweetened foreign spirits together, there has been a decrease of 2 per cent. in the consumption on a comparison of the figures for the two years 1875 and 1876. The number of gallons on which duty was paid having been, 1875, 11,808,000; 1876, 11,501,000, a difference of 307,000 gallons in favour of the year 1875. The consumption of rum has fallen off from 5,386,000 gallons in 1875 to 5,037,000 gallons in 1876, a decrease of 349,000 gallons, or 6 per cent. Brandy shows a small increase of 0·5 per cent., and other sorts of unsweetened spirits an increase of 1 per cent. The quantity of foreign spirits methylated during the year 1876, and thus "consumed" in a different sense from that indicated by the above figures, was 14,863 gallons.

MEAT SUPPLY.—The following table shows the quantities of dead meat imported into the United Kingdom from 1872-76. Nearly the whole of the supplies are received through the ports of London, Liverpool, and Glasgow.

	1872.	1873.	1874.	1875.	1876.
	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.
Beef, salted	193,327	215,777	226,928	180,638	241,083
,, fresh, or slightly salted..	35,585	44,777	34,793	34,943	172,268
Pork, salted	212,030	265,321	286,837	231,053	352,068
,, fresh	6,230	24,374	35,737	35,610	26,539
Meat, salted or fresh, not otherwise enumerated, principally fresh mutton.. ..	55,354	79,841	119,403	144,954	92,556
Meat, preserved, otherwise than by salting	350,729	260,749	265,223	171,373	283,066
Total	853,255	890,839	968,921	798,571	1,167,580

There is a special interest connected with the account of the importation of dead meat into Liverpool during the year 1876, inasmuch as it indicates the extent of the supply of American beef for the English market. In the first quarter of the year the importation of meat from America was 196,000 cwts.; in the second quarter, 149,000 cwts.; in the third quarter, 143,000 cwts.; in the fourth quarter, 289,000 cwts.; and the increase in the total supply, on a comparison of the importations of 1875 and 1876, was 370,000 cwts., or 91 per cent. Turning to some of the other importations of animal food, we find that no less than 2,829,000 cwts. of bacon were received, being an increase of 415,000 cwts., or 17 per cent. upon the receipt of 1875. The value of the importation of this article is no less than about 8 millions sterling, being about equal to the total value of the imports of all cattle, sheep, and swine put together. The chief source of supply in this case also is the United States of America, about 2,426,000 cwts., or 85 per cent. of the total, having been forwarded from that country. The same remark applies to hams, which are valued at 1,052,000*l.*, of which 372,000 cwts. came from the United States.

Another parliamentary return shows the value of the imports of meat into the United Kingdom in 1876—beef, fresh or slightly salted, 172,268 cwt., of the value of 467,560*l.*; fresh pork, 26,539 cwt., of the value of 71,442*l.*; meat, salted or fresh, not otherwise enumerated, principally fresh mutton, 92,556 cwt. of the value of 281,830*l.*; and meat preserved otherwise than by salting, 283,066 cwt., of the value of 887,037*l.* Of the fresh beef 144,336 cwt. came from the United States; of the fresh pork, 16,187 cwt. came from Belgium; of the other meat, stated to be principally fresh mutton, 69,770 cwt. came from Holland, 14,461 cwt. from the United States, and 13,543 cwt. from France. Of the preserved meat, 138,054 cwt. came from Australia, 90,790 cwt. from the United States, and 21,773 cwt. from Uruguay. A more recent parliamentary return shows that the total quantity of dead meat imported into the United Kingdom in the three months ended June 30, 1877, was 456,717 cwt., of the value of 1,122,062*l.* Of the total quantity, 371,408 cwt. came from the United States, 47,175 cwt. being preserved meat, and 32,104 cwt. of preserved meat came from Australia. From other countries the quantities imported were:—Canada, 12,382 cwt.; Germany, 9,586 cwt. (chiefly salted pork); Holland, 8,921 cwt. (chiefly fresh mutton); France, 6,737 cwt. (chiefly preserved meat), Denmark, 5,966 cwt. (chiefly salted pork); Belgium, 5,313 cwt. (chiefly preserved meat); Uruguay, 3,696 cwt. (preserved meat); and other countries, 604 cwt. The total quantities of the different kinds of meat imported are classified as follows:—Salted beef, 65,239 cwt.; fresh or slightly

salted beef, 183,283 cwt.; salted pork, 93,556 cwt.; fresh pork, 418 cwt.; salted or fresh meat not otherwise enumerated, principally fresh mutton, 20,651 cwt; meat preserved otherwise than by salting, 93,570 cwt.

IMPORTATION OF CATTLE.—The number of foreign cattle, sheep, and lambs imported into this country during the year ending March 31, 1877, was, according to a return which has just been presented to Parliament, 1,275,579, the numbers for the two previous years being as follows:—Year ending March 31, 1875, 995,589; and year ending March, 31, 1876, 1,300,934. The number of cargoes of cattle and sheep landed at ports in Great Britain during the three years ending March 31, 1877, was 12,380; of these 1,458 cargoes were found to have diseased animals on board, which were in consequence ordered to be slaughtered at the port of debarkation. The foot-and-mouth disease was the most common among the imported animals, no fewer than 1,381 cargoes being thus affected. Of the others, one cargo was found to be affected by cattle plague, thirteen by pleuro-pneumonia, two by sheep-pox, and sixty-one cargoes were affected by sheep-scab.

WINE AND SPIRITS.—The total quantity of wine imported in 1876 shows an increase over the quantity of the preceding year. The number of gallons of wine of all kinds stands at very nearly 20 millions. The exact figures are 19,950,723. These compared with the imports of 1875, 18,429,305 gallons, give an augmented receipt of 1,521,418 gallons, or 8·2 per cent., and compared with those of 1874 of 9·4 per cent. In analyzing the total we find that more than three-fourths of the quantity were imported from the three great countries of production, France, Spain, and Portugal, in the following proportions, viz.:—France, 7,062,000 gallons: Spain, 6,895,000 gallons; and Portugal 3,978,000 gallons. The increase in French wines was very large, viz., so far as red wine is concerned, from 3,635,000 gallons in 1875 to 5,368,000 gallons in 1876, a difference in favour of the latter of 1,733,000 gallons, or 47 per cent. So large an importation of French red wine has never before taken place. The quantities of rum are far greater than any yet recorded in the history of our imports—no less than 10,395,000 gallons having been introduced into this country during the year 1876. This is an increase of 1,570,000 gallons upon the quantity received in 1875, and 2,245,000 gallons upon that in 1874, or 17 and 27 per cent. respectively, and is just double the quantity imported eight years ago. Only about 1¼ million gallons are exported annually, so that the large supply of this article is mainly for the home market. Of the 10 million gallons, 8,200,000 gallons were received from the West Indies and 591,000 gallons from Mauritius. In brandy also a marvellous increase is observable in 1876, the quantity having been very nearly double that imported in 1875; the figures for the two years being 7,913,000 gallons and 4,069,000 gallons respectively. No such importation has taken place in one year, except in 1870, when from a purely exceptional circumstance, viz., the desire to secure the property in consequence of the German invasion of France, a quantity slightly exceeding that of which we are now writing (7,942,000 gallons) was hurriedly sent to this country to be warehoused. In no other year have the figures at all approached those of 1876, the average of the preceding five years having been but 4½ million gallons, and the highest point reached in that period about 6,400,000 gallons in the year 1873.

TEA.—The importations of tea in 1876 were not so large as those of 1875 by about 12 million lbs., but were in excess of those of 1874 by about 23 million lbs. The decrease was only in China tea, which exhibits a falling off of 14½ million lbs., thus:—Import from China in 1875, 170,462,000; in 1876, 155,907,000 lbs. Indian tea continues to show an increase. In the last three years the importations have been as follows, viz.:—1874, 17,608,000 lbs.; 1875, 25,427,000 lbs.; 1876, 27,814,000 lbs.; the figures for 1876 showing an increase of 9·3 per cent. upon those of 1875, and of 57·9 per cent. upon those of 1874. The stock of tea in bond at the end of 1876 was 111,946,611 lbs., by far the largest yet recorded, and of this quantity 104,701,988 lbs. were in the bonded warehouses in London. It was 4·6 per cent. greater than the stock at the same date in 1875, and 27 per cent. greater than in 1874.

IRON PRODUCE OF THE UNITED KINGDOM.—The total amount of iron ore produced in 1876 in the United Kingdom was 16,841,583 tons, and the value 6,825,705*l*. The pig iron produced from the ore was 6,555,997 tons, and the value of the raw material was increased by the expenditure of coal and labour in smelting to 16,062,192*l*. These figures show a considerable increase over the production in 1875. In that year 15,821,060 tons of iron ore, valued at 5,975,410, were raised, and 6,365,462 tons of pig iron, valued at 15,645,774*l*., produced. The increase has been chiefly in the Cleveland district and in Scotland. The production of Scotch pig iron has increased from 807,677 tons in 1874 to 1,103,000 tons in 1876. The Scotch ore requires a relatively large quantity of coal, and the low price of coal has assisted production. The total amount of coal used in the making of pig iron in 1876 was 15,598,381 tons. Much of this was, in fact, used in the form of coke. The Royal Commission on Coal reckoned that three tons of coal are used on the average to

make one ton of pig iron. The figures quoted show that pig iron is now more economically made. It appears from them that the quantity of coal used per ton of pig iron is considerably less on the average than 2½ tons. In addition to the iron ore raised in the United Kingdom, we smelted in 1876 672,235 tons of imported ore, and derived 300,000 tons of burnt or purple ore from imported cupreous pyrites, which raised the total quantity smelted to 17,813,818 tons. The current issue of the statistics omits many tables found in the previous publications. Among added lists is one of firms using the Siemens and Siemens-Martin processes for steel. It is printed opposite the list of those using the Bessemer converters, and some names, as that of the London and North-Western Railway Company and the Dowlais Iron Company appear in both categories.

COAL PRODUCE OF ENGLAND.—The general summary shows that the quantity of coal produced in England in 1876 was 133,344,766 tons; in 1875 the quantity was 131,867,105 tons; in 1874 it was 125,043,257 tons; while in 1873 it had reached the then unprecedented height of 127,016,747 tons. Coal is to so great an extent, if indirectly rather than directly, the staple commodity of British commerce, that the unchecked increase in its production during years when great complaints as to slackness of trade have been rife will be observed with satisfaction. The statistics, however, are less satisfactory when more carefully scanned. In the first place, while they show the continued activity of the collieries, they indicate unmistakably, at the same time, that coal mining has been carried on at a diminished rate of profits, though not, as may be inferred from the continued production, at a rate which is wholly unremunerative. The 133,344,766 tons raised in 1876 are valued at 46,670,661*l.*; the 127,016,747 tons of coal won in 1873 were valued at 47,631,280*l.* The fall in price is not an unmixed calamity. If the prices of the latter part of 1872 and the earlier part of 1873 had long continued, some branches of English manufacture must have ceased to exist. The progress of the export trade is another point which attracts attention. The coal exported to foreign countries in 1876 in the form of coal, coke, or patent fuel was 16,229,077 tons, of the declared value of 8,904,463*l.* The coal exported in 1875 was only 14,544,916 tons, or 1,754,161 tons less than in 1876. Now, the total production of coal in 1876 only exceeded that in 1875 by 1,477,661 tons, and so the result is arrived at that the consumption of coal in England in 1876 did not increase, but in fact diminished by some 300,000 tons as compared with the consumption in 1875. The whole of the increased amount produced was exported to foreign countries as raw material for the use of manufacturers there, instead of being employed in making manufactured goods in England. To compare other years it will be necessary to quote the figures for coal alone, excluding coke and patent fuel. In 1871 we exported 12,208,009 tons, having a declared value of 5,879,680*l.*; in 1872 12,712,231 tons, valued at no less than 9,858,418*l.*; in 1873, 12,077,507 tons, valued at 12,370,638*l.*; in 1874, 13,381,071 tons, valued at 11,359,458*l.*; in 1875, 13,978,956 tons, valued at 9,155,801*l.*; in 1876, 15,690,402 tons, valued at 8,473,851*l.* Thus we are yearly exporting more coal at a lower price. It was in 1873 proposed to enforce an export duty upon coal, on the ground that coal was an article of first necessity, the export of which would not be checked by a duty, and that thus the duty would be an ingenious device for raising British taxes out of the pockets of foreign competitors with British manufacturers. But the figures show that the high price in that year restricted export, and that low prices since have stimulated it. The deduction is obvious that an artificially high price caused by an export duty would equally have checked exportation.

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4. POPULATION, PUBLIC EMPLOYMENT, AND VITAL STATISTICS.

GOVERNMENT SERVANTS.—A parliamentary return shows that in the year 1876 there was an increase of 933 in the number of persons employed in public offices or departments, at a total expense of 174,627*l.* 17*s.* 6*d.* The largest increase was in the Post Office, where 629 persons have been added, with salaries amounting to 64,785*l.* In the Education Department there is an increase of 52 persons, and an additional expense of 20,339*l.* 11*s.* 9*d.*; and in the Inland Revenue an increase of 91 persons, involving in salaries, &c., an increased expenditure of 10,945 4*s.* 9*d.*, On the other hand, there has been a diminution in various departments of 61 persons, and a decrease in the expenditure of 36,140*l.* 7*s.* 1*d.* The largest items under this head are a decrease of 5,286*l.* 3*s.* 5*d.* in the Office of Works, being the salaries of nine persons, and a decrease of emoluments in the Education Department of 4,936*l.* 15*s.* 8*d.* There has been a decrease of 14 in the number of persons employed in the War Office and Military departments, but their salaries and emoluments only amounted to 765*l.* 13*s.* 4*d.*

Births, Marriages, and Deaths.—The following table shows the total number of births, deaths, and marriages in England and Wales, and Scotland, from 1859 to 1876, and Ireland, from 1865 to 1876:—

England and Wales.

Years.	Births.	Deaths.	Marriages.
1859	689,881	441,790	167,723
1860	684,048	422,721	170,156
1861	696,406	435,114	163,706
1862	712,684	436,573	163,830
1863	727,417	473,837	173,510
1864	740,275	495,531	180,387
1865	748,069	490,909	185,474
1866	753,870	500,689	187,776
1867	768,349	471,073	179,154
1868	786,858	480,622	176,962
1869	773,381	494,828	176,970
1870	792,787	515,329	181,655
1871	797,428	514,879	190,112
1872	825,907	492,265	202,267
1873	831,809	494,003	205,460
1874	854,307	526,701	201,605
1875	850,187	546,317	200,980
1876	887,464	510,308	201,835

Scotland.

1859	106,543	61,714	21,201
1860	105,629	68,170	21,225
1861	107,036	62,287	20,828
1862	107,138	67,159	20,544
1863	109,325	71,421	22,087
1864	112,445	74,303	22,675
1865	113,126	70,821	23,577
1866	113,639	71,273	23,629
1867	114,115	69,024	22,521
1868	115,673	69,386	21,853
1869	113,395	75,789	22,083
1870	115,423	74,067	23,788
1871	116,127	74,644	23,966
1872	118,873	75,741	25,580
1873	119,738	76,857	26,730
1874	123,795	80,676	26,247
1875	123,693	81,785	25,921
1876	126,749	74,122	26,503

Ireland.*

1865	144,970	93,154	30,802
1866	146,237	93,598	30,151
1867	144,318	93,911	29,796
1868	146,108	86,803	27,753
1869	145,659	89,573	27,277
1870	150,151	90,695	28,835
1871	151,665	88,720	28,960
1872	149,292	97,577	27,114
1873	144,592	97,840	26,566
1874	144,411	92,352	25,201
1875	138,382	98,243	24,259
1876	140,438	92,499	26,503

* Owing to the defective state of the Registration, the figures for births, deaths, and marriages in Ireland are only an approximation to the real numbers.

Scotland.—From the report of the Registrar-General on births, deaths, and marriages in Scotland for the year 1876, it appears that the estimated population of the country at the middle of 1876 was 3,527,811 persons. During the year there were registered 126,749 births, 74,122 deaths, and 25,563 marriages. Hence, for every thousand of estimated population there have been 35·9 births, 21·0 deaths, and 7·5 marriages. These numbers when compared with the corresponding statistics for the last ten years show that the birth-rate of 1876 has considerably exceeded even that of 1874, which was regarded as unusually high; that the death-rate has been the lowest experienced since 1861, and far within the average of the last ten years; and that marriages had taken place at a rate considerably exceeding the average of the ten years, though not quite coming up to the rate that prevailed in 1873 and 1874. The natural increase of the population of Scotland, apart from the disturbing influence of emigration and immigration, must, says the Registrar-General, during 1876 have been great, and the frequency of marriages during the last five years renders it probable that this increase will be sustained.

Ireland.—From the general abstract of the number of births, deaths, and marriages in Ireland during the year 1876, it appears that in that period 26,503 marriages, 140,438 births, and 92,499 deaths were registered, and in the same period, according to the returns obtained by the Royal Irish constabulary and the Dublin metropolitan police, who acted as enumerators at the several Irish seaports, 37,587 persons emigrated. An increase of 10,352 would thus appear to have taken place in the population, exclusive of any addition by immigration. The estimated population in the middle of the year was 5,321,618. Of the marriages 19,027 took place between Roman Catholics and 7,476 between Protestants, being equal respectively to one marriage in every 214 Roman Catholics and one in every 167 Protestants. The average number of marriages registered in the ten years 1866–75 was 27,366, or 5·06 per 1,000 of the mean population. The rate for the year 1875 was only 4·53 per 1,000 persons, and that for 1876 4·98 per 1,000 of the estimated population in the middle of the year. An epoch in the later history of the country is, says the Registrar-General, marked by 1876 as being the first year for a considerable period in which the natural increase of population, or excess of births over deaths, was not more than counterbalanced by the number of emigrants.

THE INFLUENCE OF LOCALITY ON THE DEATH-RATE.—The Registrar-General in his Report for 1875, says: The death-rate in England in 1875 was 22·8 per 1,000 of population. In 12 counties, &c., it was as high as, or higher than, this standard:—Lancashire heads the list with a mortality of 26·9; the county of Nottingham stands second, 25·0; next in order are the West and the East Ridings of York; their respective rates were 24·8 and 24·7; then follow Leicestershire 24·7, Durham 24·4, Warwickshire 24·1, Northumberland 24·1, Cumberland with a death-rate as high as that of London, 23·8, Staffordshire 23·4, Cheshire 23·0, and Derbyshire and South Wales 22·8. The mortality in the remaining counties, &c., was below that of all England, and ranged from 17·6 in the extra-metropolitan part of Surrey, and 17·8 in Westmorland, to 22·2 in Gloucestershire, 22·5 in the North Riding of Yorkshire, and 22·6 in North Wales. In addition to vicissitudes of temperature, local agencies must have been at work to have produced such striking effects on the health of different populations as are exhibited in the following counties, where the death-rate in 1875 was considerably higher than the average of the preceding 10 years. Passing these in review topographically, it appears that the mortality in 1875, and the average annual rate in 1865-74, respectively, were in Hertfordshire 20·4 and 18·7, Northamptonshire 21·6 and 20·5, Huntingdonshire 21·4 and 18·8, Cambridgeshtre 21·2 and 19·1, Suffolk 19·9 and 18·8, Norfolk 21·5 and 20·4, Wiltshire 20·3 and 18·8, Dorsetshire 19·5 and 18·0, Somersetshire 20·9 and 19·2, Gloucestershire 22·2 and 20·4, Worcestershire 20·7 and 19·6, Warwickshire 24·1 and 22·7, Leicestershire 24·7 and 22·0, Lincolnshire 20·2 and 18·9, Nottinghamshire 25·0 and 21·9, Derbyshire 22·8 and 21·6, Cheshire 23·0 and 22·1, East Riding of Yorkshire 24·7 and 22·2, North Riding of Yorkshire 22·5 and 20·4, Cumberland 23·8 and 22·6, South Wales 22·8 and 21·7, and North Wales 22·6 and 21·0. It would add to the usefulness of my annual reports if death-rates could be calculated and published for every district, but time, and the comparatively small strength of the statistical department, only admit of this being done for the aggregated facts of the 10 years which intervene between each census. Indeed, had it not been for the introduction of the arithmometer,—two or three of which machines are in constant use,—it would be impossible to produce the mass of calculations which already appear in my weekly and quarterly reports, in my annual summary of London, and in the preliminary tables and appendices to my annual reports. To enable Health Officers to ascertain the annual death-rates of their districts correctly, it is necessary that they should know the numbers living out of which the deaths occur.

For some places, tolerably good estimates of population can be deduced from the rate of increase which prevailed between the two last censuses, but for many towns and cities this method is found unreliable. So long a period as 10 years should not be allowed to elapse between the enumerations of the living in large towns, especially as the expense of enumerating the mere members of the population is comparatively small. A high mortality may be lurking beneath a death-rate derived from an over-estimated population, and experience has shown that the estimated population of large towns has generally been overstated. The borough of Barrow-in-Furness, and the township of Newton Moor, near Manchester,—where enumerations of the population have been recently made,—may be cited as setting good examples.

NAME of TOWN.	Description.	Enumerated Population.				
		1861.	1871.	1874.	1876.	1877.
Barrow-in-Furness	Municipal Borough	—	18,774	41,068	—	37,350
Newton Moor ...	Urban Sanitary District	6,440	6,295	—	7,476	—

In the case of Barrow-in-Furness the cost of the Census of 1874 was under 20*l.*, or at the rate of rather less than 9*s.* 9*d.* per 1,000, and in that of Newton Moor in 1876 it was 7*l.* 7*s.*, or 19*s.* 8*d.* per 1,000, including printing.

LUNATICS.—The Commissioners in Lunacy, in their thirty-first report, state that the returns made to their office show the total number of lunatics, idiots, and persons of unsound mind, registered as such in England and Wales on the 1st of January, 1877, to have been 66,636, an increase of 1,720 upon that of the 1st of January, 1876. These numbers do not include 252 lunatics so found by inquisition, who reside in charge of their committees. The Commissioners give the following analysis, showing the increase and decrease under the various heads of distribution, as compared with the 1st of January, 1876:

—"The private patients have increased in county and borough asylums by 3, in registered hospitals by 56, in licensed houses by 37, in the Naval, Military, and Indian Asylums by 4, and as "single patients" in private charge by 19, while there has been a decrease of 31 in the number of patients maintained by the State at Broadmoor Asylum, and who, as already stated, are included in the private class. The pauper patients have increased in county and borough asylums by 1366, in licensed houses by 55, at the Broadmoor Criminal Asylum by 17, and in workhouses by 529. There has been on the other hand, a decrease in this class of 121 in registered hospitals, and of 214 in the number of out-door paupers. The increase (88) in the number of registered patients of the private class on the 1st of January last, as compared with the returns of the preceding year, is below the average annual increase of past years. This is, no doubt, in a measure due to the fact that male convicts becoming insane whilst undergoing sentence are no longer sent to the Broadmoor Asylum, but are retained in convict prisons. Returns of such cases are not made to our office, nor are these patients visited by us. The decrease in this year's return of thirty-one in the patients classed as 'private' in Broadmoor Asylum is likewise to a certain extent accounted for by this change of system, though it is also partly due to deaths of convict patients there, and to removals thence to county asylums of those whose sentences of penal servitude have expired, as well as to the return to convict prisons of those who have become sane, but whose sentences were still running. The decrease of 121 in the pauper patients in registered hospitals is almost exclusively due to the removal from Northampton Hospital to the new county asylum of all the remaining pauper lunatics. This hospital now contains, and will in future receive, private patients only. The insane and imbecile in the metropolitan district asylums at Leavesden, Caterham, and Clapton (considered as workhouses within the meaning of the Lunacy Acts) were, on the 1st of January last, 4,519, an increase of 314 upon the number in these institutions on the 1st of January, 1876. In the ordinary workhouses of the country, the increase in the insane and imbecile residents as regards the corresponding period was 215."

MORTALITY OF THE ARMY.—The average strength of the army at home and abroad in the year 1875 the last year reported upon, was 184,669, or 38,170 less than in 1862, and the number of deaths was 2,269; so the rate of mortality was 12·3 per 1,000 of strength, or 0·8 per 1,000 above the rate in 1874. The average strength of the army at home was 97, 193, and the deaths were 1,061; the rate of mortality per 1,000 strength was 11·8 among officers, and 10·9 among non-commissioned officers and men, the average annual rates in the 14 years 1861–74 being 9·7 and 11·1 respectively, so the mortality among officers serving at home in 1875 was 2·1 per 1,000 above the average, while that of the non-commissioned officers and men serving at home was ·2 per 1,000 below the average. The average strength of the army abroad was 87,476, and the deaths were 1,208. The rate of mortality per 1,000 of strength was 15·2 among officers, and 13·7 among non-commissioned officers and men, against an average annual rate in the 14 years 1861–74 of 13·9 and 18·4 respectively. The mortality among officers serving abroad in 1875 was, therefore, 1·3 per 1,000 above the average, while that of non-commissioned officers and men serving abroad was 4·7 per 1,000 below the average. 38 per cent. of the British Army were stationed in England and Wales, 2 per cent. in Scotland, 13 per cent. in Ireland, and 47 per cent. abroad.

MORTALITY OF THE NAVY.—The late Dr. Mackay, Deputy Inspector-General of the Navy, reporting to Sir A. Armstrong, K.C.B., M.D., the Director-General of the Medical Department, on the sanitary condition of the service afloat in the year 1875, states that it was satisfactory. The total force in the service afloat was 44,360; the deaths were 392, so the mortality was 8·8 per 1,000 force. Compared with the preceding year there was a decrease in the mortality of ·7 per 1,000; in the cases of disease and injury of 37·4 per 1,000. and of invaliding of 4·8 per 1,000. Compared with the average for 12 years there was a decrease in the death-rate of 1·9 per 1,000, and in the cases placed on the sick list of 93·1 per 1,000. In the ratio of invaliding there was an increase of ·3 per ·1,000. A comparison of the death-rates at the different stations shows that the greatest increase in the mortality occurred on the Australian station, where there was an outbreak of enteric fever, which resulted in 41 cases and 3 deaths, and the greatest reduction was on the south-east coast of the American station. The number of deaths in the total force during the year 1875 from disease was 307, and from wounds, injuries, and drowning 85. The death-rate from disease alone was 6·9, and from violence, including drowning, 1·9 per 1,000, against 6·8 and 2·7, respectively, in 1874. Out of the 307 deaths from disease, 19 were referred to enteric fever, 9 to simple continued fever, and 4 to yellow fever, 9 to remittent fever, 8 to cholera, 49 to consumption, 36 to heart diseases, 15 to aneurism, 32 to pneumonia, 10 to dysentery, 10 to stomach diseases. 5 to kidney diseases, and 3 to delirium tremens and alcohol. In every 100 deaths 22·4 were from drowning and other violence. Of 100 deaths at all ages, thirty-nine were aged 15–25, thirty-four were aged 25–35, twenty-

two were aged 35-45, and five were aged 45 years and upwards. The mean force employed on the home station was 21,600, and the deaths were 161, being in the proportion of 7·5 per 1,000, against 7·8 in the previous year. The mortality from disease on this station was 6·3 per 1,000 force, from violence 1·2 per 1,000; against 5·7 and 2·1 in the previous year.

BIRTHS AND DEATHS IN THE UNITED KINGDOM.— The Registrar-General's last report contains the following summary:— The population of the United Kingdom estimated to the middle of the year 1875 was 32,749,167. It has been supposed that the mortality of the United Kingdom would be increased by including the strength and deaths of the portions of the army, navy, and merchant seamen abroad, but the mortality of the United Kingdom in 1875, including the army, navy, and merchant seamen abroad, was 22·1, whereas the mortality of the general population—excluding that portion of the army, navy, and merchant seamen abroad—was 22·2 per 1,000. The number of native emigrants who left Ireland in 1875 was 51,462, which is the lowest number recorded since the collection of the emigration returns commenced in 1851. The estimated population of Ireland in 1875 was 5,309,494. The number of births registered in Ireland in 1875 was only 138,320, or 26·1 per 1,000 of population, the number of deaths registered was but 98,114, or 18·5 per 1,000. Only 24,037 marriages were returned, which would make the marriage rate (the number of persons married to 1,000 of population) 9·1. In the 12th Annual Report of marriages, births, and deaths, for Ireland, relating to the abstracts of 1875, Dr. Burke, the Registrar-General, states that these comparatively low rates are not altogether the result of defective registration. As regards marriages, although—through the neglect of the clergy—the numbers unregistered are still numerous, there is a large annual emigration of adult unmarried persons from Ireland, and the census returns of 1871 show that the proportion per cent. of unmarried men, aged 20 years and upwards, to the total numbers living at those ages (27·1) is considerably lower than the proportional number (38·3) in England. With reference to births, their registration is not so defective as was supposed. According to the census returns of 1871, the proportion per cent. of married women, aged 15 and under 55, to the female population living at all ages was much lower in Ireland (23·0) than in England (28·7); so that, assuming the births to be in the same ratio to the number of married women in each of these two portions of the United Kingdom, the number of legitimate births in Ireland must necessarily be less than the number in England. While the average annual number of legitimate births in England to every 1,000 women aged 15 and under 55 is 224, in Ireland the proportional number is 223. To render the registration of deaths perfect in Ireland, Dr. Burke recommends that a notification of the death should be required to be given to the registrar previously to interment. The registration of births and deaths in Ireland is compulsory, but the law has not hitherto been enforced. The estimated population of Scotland in 1875 was 3,495,214. The registration of births is now compulsory in England and Scotland, and the birth-rates are almost alike, being 35·5 per 1,000 in England, and 35·4 in Scotland. In the mortality the disparity was greater, the death-rate of England being 22·8, while that of Scotland was 23·4 per 1,000. The marriage rates, owing to the difference in the marriage law in Scotland as to registration, differed considerably; they were respectively 16·8 in England, and 14·8 in Scotland.

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5. CRIME, PAUPERISM, AND ACCIDENTS.

THE METROPOLITAN POLICE. — Colonel Henderson in his report on the metropolitan police for the year 1876, states that 76,214 persons were arrested during the year, showing an increase of 3,608 over 1875, and 8,511 over 1874. The increase is mainly assigned to the arrest of drunken and disorderly persons and prostitutes. The total number of such persons arrested was 38,748 in 1876, against 36,539 in 1875. These offences, the report says, comprise more than one-half of all the crime in the metropolis. Colonel Henderson continues: —"The return of the number of principal offences against property is not so satisfactory as in the years subsequent to 1871. It shows a total increase of 1,623 offences over 1875, which was a year exceptionally free from crime. The offence of simple larceny accounts for 1,206 out of these 1,623 offences; the other offences show a slight increase, except that of attempting to rob, which shows a decrease of 10 as compared with 1875. The total number of indictable offences increased from 12,228 in 1875 to 13,990 in 1876. The apprehensions increased from 4,018 to 4,234, and the convictions from 2,345 to 2,476. 11,904 summonses were issued on the application of the police during the year, resulting in 10,971 convictions and 933 dismissals, 3,203 persons suffering from accidents or other causes were conveyed to hospitals by the police. 130 persons were killed and 2,740 were maimed in the streets during the year by cabs, omnibuses, light carts, broug-

hams, vans, &c. During the last ten years, 1,135 persons have been killed, and 21,817 maimed in the streets of London. Of these 657 have been killed, and 12,027 maimed by light and heavy carts, waggons, and vans; 242 have been killed and 6,216 maimed by cabs, omnibuses, and cars. 4,152 persons were apprehended under the Vagrant and Poor Law Acts, of whom 2,236 were beggars, and 1,003 were charged with disorderly conduct in workhouses and damaging workhouse clothing. The number of beggars is about the average of the last four years, but that average is far below the average of preceding years, and no doubt the number of beggars in the streets have been diminished considerably during the last few years. The police attended 479 fires during the year. The total number of men employed was 12,913. 18,881 stray dogs were seized in the streets of the metropolis by the police, and were conveyed to the Dogs' Home, or otherwise disposed of. The Act authorising the police to take possession of dogs found in the streets and not under control of any person, came into force in 1867, and since that time 92,886 dogs have been seized and removed from the streets. During the year 8,530 windows and 16,769 doors were found open or insecurely fastened, and the occupiers duly warned. As a commentary on the temptation held out by this negligence on the part of owners of property, I may add that out of 4,834 felonious entries during the year 3,513 were through open doors and windows, and 239 into furnished houses left unprotected, and 477 into unfinished houses similarly neglected, being 4,228 felonies, more or less the result of carelessness, out of 4,834."

Smuggling.—The following is a statement showing the quantity of tobacco and cigars, and of spirits, seized in the United Kingdom in the years 1875 and 1876 respectively:—

	Tobacco and Cigars.				Spirits.			
	1875.	1876.	Increase.	Decrease.	1875.	1876.	Increase.	Decrease.
	Lbs.	Lbs.	Lbs.	Lbs.	Galls.	Galls.	Galls.	Galls.
London ..	1,667	2,502	835	—	111	13	—	98
Outports ..	6,858	9,030	2,172	—	124	252	128	—
Total ..	8,525	11,532	3,007	—	235	265	Increase 30	

The number of seizures in 1874 was 1,123, and in 1876 1,201, an increase of 78. The number of persons convicted in 1874 was 1,088, and in 1875, 1,141, an increase of 53.

The Wreck Register.—The number of wrecks, casualties, and collisions from all causes on and near the coasts of the United Kingdom, and in the surrounding seas, reported during the year 1875-6, is 3,757, being 167 in excess of the number reported in the previous year. Of this large number 502 cases involved total loss, against 472 and 498 respectively for the two previous years; and if we deduct 502 from 3,757, the remainder is made up of 1,076 serious casualties and 2,179 minor accidents. From 1856 to 1860, the average number of wrecks each year was 1,252; from 1861 to 1865 it was 1,538; and from 1866 to 1870 it was 1,862. From 1871 to 1875-6, after subtracting, for the purpose of proper comparison, the minor casualties in the years 1874-6—such cases not being included in previous Registers—we find that the average number for each of the last five years reached 2,226. Between 1861 and 1875-6 the number of vessels, British and foreign, which met with casualties, attended with loss of life, on the coasts and in the seas of the United Kingdom was 2,592, involving the drowning of 12,322 persons, and in the year 1875-6 loss of life occurred in one out of every 22 of the casualties on our coasts. Of the total number of wrecks (3,757) reported as having occurred on and near the coasts of the United Kingdom during the year, 775 were collisions, and 2,982 were wrecks and casualties other than collisions. Of these latter casualties, 425 were wrecks, &c., resulting in total loss; 851 were casualties resulting in serious damage; and 1,706 were minor accidents. The whole number of wrecks and casualties other than collisions on and near our coasts reported during the year 1874-5 was 2,931, or 51 less than the number reported during the year 1875-6. We observe that of the 425 total losses from causes other than collisions on and near the coasts of the United Kingdom during the year 1875-6, 176 happened when the wind was, as appeared from the Wreck Reports, at the force of a gale, and are classed in the returns as having been caused by stress of weather; 111 from inattention, carelessness, or neglect; 29 arose from defects in the ship or in her equipments (and of these 29, 19 appear to have foundered from unseaworthiness); 64 appear to have arisen from

various other causes; and of the remainder (34 of which were missing vessels) the cause of loss is unknown. Of the 851 casualties resulting in serious damage, but not total loss, from causes other than collisions, on and near the coasts of the United Kingdom, 357 happened when the wind was, as reported, at the force of a gale, and are included as having been caused by stress of weather; 202 arose from carelessness; 94 from defects in the ship or her equipments; and the remainder appear to have arisen from various and unknown causes. Of the 1,706 casualties resulting in minor damage, from causes other than collisions on and near the coasts of the United Kingdom, 1,099 happened when the wind was, as reported, at the force of a gale, and are included as having been caused by stress of weather; 221 were from carelessness, 86 from defects in the ship or her equipments, and the remainder appear to have arisen from various and unknown causes. The total number of ships which, according to the facts reported, appear to have foundered, or to have been otherwise totally lost on and near the coasts of the United Kingdom from defects in the ships or their equipments during the year 1875-6 is 29, and the number of casualties arising from the same causes during the same year, and resulting in serious damage, is 94, and in minor damage, 86. During the past year 345 smacks and other fishing vessels were wrecked or disabled on our coasts; and that, excluding these, 4,209 vessels employed in the carrying trade of the country suffered from wreck, casualty, or collision on and near our coasts during the same period. We must say a word here on the ages of the ships lost, as it is marvellous to observe the tenacity of life, as it were, in some ships. Thus during the year 1875-6, 347 wrecks and casualties happened to nearly new ships, and 639 to ships from three to seven years of age. Then there are wrecks and casualties to 1,032 from seven to 14 years old, and to 1,414 from 15 to 30 years old; then follow 611 old ships from 30 to 50 years old. Having passed the service of half a century, we come to the very old ships—viz., 80 between 50 and 60 years old, 41 from 60 to 70, 12 from 70 to 80, 12 from 80 to 90, two from 90 to 100, and two upwards of 100, while the ages of 362 of the wrecks are unknown. Among the losses on our coasts in 1875-6, 525 were steamships, 139 were rigged as ships, 497 barks, 533 brigs, 505 brigantines, 1,317 schooners, and 199 smacks; the remainder were small vessels rigged in various ways. Of the 4,554 vessels meeting with disasters in the year, 2,024 did not exceed 100 tons burden, 1,561 were from 100 to 300 tons, 623 were from 300 to 600 tons, and 346 only were above 600 tons burden. Of the 502 vessels totally lost, 37 are known to have been built of iron, and of this number 31 were steamships and six sailing vessels. The total number of lives lost from the shipwrecks on our coast during the past year was 778, 148 less than those lost in the previous year. These 778 lives were lost in 171 ships; 121 of them were laden vessels, and 49 were vessels in ballast; 134 of these ships were entirely lost, and 37 sustained partial damage. Of the 778 lives lost, 73 were lost in vessels that foundered; 166 through vessels in collision, 325 in vessels stranded or cast ashore, and 158 in missing vessels. The remaining losses of life (56) occurred from various causes, such as being washed overboard in heavy seas, explosions, missing vessels, &c. Of the 171 ships from which the 778 lives were lost, 143 were British, involving the loss of 580 lives, and 28 were foreign, involving the loss of 198 lives. 4,358 lives were saved during the year 1875-6 by the Lifeboats of the National Lifeboat Institution, the rocket apparatus of the Board of Trade, ship-boats, coast-guard and fishing boats, harbour lifeboats, and various other means. The National Lifeboat Institution has, at the present time, 267 lifeboats under its management.

INDOOR AND OUTDOOR RELIEF.—A return lately issued by the Local Government shows the variation of pauperism during the past year, and gives comparisons with previous returns from the formation of the Board in 1849. In 1875 the total cost of pauperism was 7,488,481*l.*; last year it was 7,335,858*l.*—a decrease of 152,623*l.*, or 2 per cent. In 1868 the cost of pauperism per head of the population was 6*s.* 11¼*d.*, while in 1876 it was only 6*s.* 0¾*d.*, or a decrease of more than 12 per cent. This decrease varies in different counties, for while in Huntingdonshire it was 13·8 per cent., in Shropshire it has only been 0·8 per cent. In several counties there has been an increase—from Middlesex, with an increase of 0·2 per cent.. to York (North Riding) 10·6 per cent. The outdoor relief throughout the country has fallen for the year from 2,958,970*l.* to 2,760,804*l.*, or about 7 per cent., while the indoor relief has also fallen from 1,577,596*l.* to 1,534,224*l.* In Whitechapel, six years ago, there were 2,500 persons in receipt of outdoor relief; now there are only 150. In Stepney over 4,000; now only 160. The greatest reduction in the number of outdoor paupers has been in Berkshire, where it has fallen 36·8 per cent.; Bucks, 35 per cent.; Oxfordshire, 28·6 per cent. In Middlesex the decrease has been no less than 50·5 per cent.; in Surrey, 32·8 per cent.; in Warwickshire, 24·4 per cent.; in Huntingdonshire 45·1 per cent. In 1873 in Northumberland, Durham, and the North Riding of Yorkshire there were 34,698 outdoor paupers; in 1877 29,260 only, or a decrease of 16 per cent. During the same interval the ratio of outdoor paupers to indoor was reduced from 7 to 1 to 5 to 1. In Nottingham the proportion of expenditure has

fallen from 60 per cent. to 49·3 in 1876. In Aberystwith, in 1873, there were only 33 indoor paupers and 1,755 outdoor, or 7 per cent. of the population, while in 1875 there were 59 indoor and 1,098 outdoor, or 4 per cent., and a saving in money of 2,200. In the Hatcham Union with a population of 45,565 the pauperism is only 0·9 per cent. of the population, Wellington also shows a reduction of pauperism from 4·9 per cent. in 1872 to 2·5 per cent. in 1877, and a reduction in expenditure from 2,167*l.* in the former year to 1,488*l.* in the latter. In this Union between the years 1870 to 1876 the workhouse was offered to 2,783 persons, but only accepted by 187 of them, and many of these remained for a very few days. In Essex the outdoor pauperism has decreased from 19,819 in 1870 to 12,075 in 1877, or 39 per cent.; in Norfolk from 24,523 in 1870 to 16,637 in 1877, or 32·2 per cent.; and in Suffolk from 20,000 in 1870 to 12,316 in 1877, or 38·4 per cent. In the meanwhile, in the same counties the indoor pauperism has also decreased—in Essex by 4·6 per cent., in Norfolk by 20·4 per cent., and in Suffolk by 15·4 per cent. In some of the coal and iron mining districts the depression was so great that large numbers of labourers were thrown out of work, and in the Auckland, Swansea, and Llanelly Unions the provisions of the outdoor labour test order were brought into active operation, the men who could not be admitted into the workhouse being set to work principally at stone-breaking. The number of men so employed, which at one time was very considerable, had, however, been materially reduced at the date of the report.

Reformatory Schools. — It appears from the Inspector's report for the year 1876, that the present number of reformatory schools in England is 53, and in Scotland, 12. The number under detention on December 31, 1876, was:—England, boys, Protestant, 3,325, girls, 795; Roman Catholic, boys, 1,154, girls, 176. Scotland, boys, Protestant, 723, girls, 135; Roman Catholic, boys, 200, girls, 106.—Total, boys, 5,402, girls, 1,212. Of these were: boys, on licence, 739, girls, 132. In prison, boys, 13, girls, 6. Absconded, not recovered, boys, 71, girls, 10.—Giving a total of, boys, 823, girls, 157. The corresponding numbers for last year were:—England, boys, Protestant, 3,324, girls, 792; Roman Catholic, boys, 1,140, girls, 225. Scotland, boys, Protestant, 739, girls, 155; Roman Catholic, boys, 203, girls, 806.—Total, boys 5,406, girls, 1,259. Of these were: boys, on licence, 790, girls, 135. In prison, boys, 12, girls, 5. Absconded, boys, 97, girls, 11.—Total, boys, 899, girls, 151. These numbers show a decrease in the year of 4 boys and 47 girls. The admissions to reformatory schools in 1876 were 1,520, viz., 1,266 boys, 254 girls, showing an increase on 1875 of 77 boys. They were distributed as follows:—England: boys, Protestant, 792, girls, 180; boys, Roman Catholic, 258, girls, 33. Scotland: boys, Protestant, 165, girls, 23; Roman Catholic, boys, 51, girls, 18. The ages on admission were:—Under 10 years, boys, 14, girls, 1.—Total 15; from 10 to 12 years, boys, 194, girls, 17.—Total, 211; from 12 to 14, boys, 491, girls, 107.—Total 598; from 14 to 16, boys, 567, girls, 129.—Total 696. Their criminal status as tested by previous convictions was:—Not before convicted, boys, 702, girls, 220.—Total 922. Once before convicted, boys, 417, girls, 27.—Total, 444. Twice before convicted, boys, 103, girls, 7. Total 110. Thrice before convicted, boys, 29. Four times and upwards, boys, 15. Total 15. Of the number admitted to English reformatory schools 69 had lost both parents, 101 had been deserted, the parents of 16 were in prison, 12 were illegitimate. Proceedings were taken in 1,043 cases, with the following results:—Excused by the magistrates on account of poverty, 265. Placed under contribution, from sixpence to five shillings a week, 778. Of the number admitted to Scotch reformatory schools 18 had lost both parents, 49 had lost their father 15 had been deserted, 9 were illegitimate. The parents of 1 were in prison. The discharges from reformatory schools in 1876, deducting transfers, amounted to 1,566. Boys, 1,268, girls, 298. The numbers for 1875 were, boys, 1,254, girls, 316; total 1,570, decrease 4. The discharged were disposed of as follows:—To employment or service, boys, 525, girls, 181.—Total 706. Placed out through relatives, boys, 418, girls, 83.—Total 501. Emigrated, boys, 45. Sent to sea, boys, 168. Enlisted, boys, 26. Discharged from disease, boys, 10, girls, 9.—Total 19. Discharged as incorrigible, boys, 6, girls, 2.—Total 8. Died, boys, 39, girls, 18.—Total 57. Absconded, not recovered, boys, 31, girls, 5.—Total, 36. As compared with 1875, the emigrated were less by 39, the sent to sea less by 42, the deaths were more by 14. The total admissions to reformatory schools to December 31, 1876, excluding transfers, amounted to 30,982, viz., boys, 25,005, girls, 5,977. The total discharges, to same date, excluding transfers, were 19,601 boys, 4,762 girls; total 24,363. Of these had been placed in employment or service, boys, 6339, girls, 2,562; had emigrated, boys, 1,889, girls, 118; had gone to sea, 2,980 boys; had enlisted, 513 boys; had died, 555 boys, girls, 221; had absconded and not been recovered, 749 boys, girls, 185. The results of the discharges for the years 1873–1375 were as follow:—Number discharged in the three years was 4,685, viz., boys, 3,797, girls, 888. Of these 102, viz., 83 boys and 19 girls have died, leaving 3,714 boys and 869 girls to be reported on. Of the 3,714 boys—2,755 or 74 per cent. were doing well; 100 or 3 per cent. were doubtful; 544 or 14 per cent.

had been convicted; 315 or 9 per cent. were unknown. Of the 869 girls—658 or 76 per cent were doing well: 53 or 6 per cent. were doubtful; 68 or 8 per cent. had been convicted; 90 or 10 per cent. were unknown. Comparing these results with those for the three years 1872-1874, given last year, we find the percentage doing well is rather better for both sexes.

CERTIFIED INDUSTRIAL SCHOOLS.—The number of these schools on 31st December, 1876 was 118, but three of these are not practically in operation, and the schools actually inspected were therefore 115. The number of children under detention in the schools on December 31, 1876, was:—England.—Boys, Protestant, 6,028, Roman Catholic, 1,494. Girls, Protestant, 1,267, Roman Catholic, 524. Scotland.—Boys, Protestant, 2,671, Roman Catholic, 306. Girls, Protestant, 999, Roman Catholic, 116.—Total, Protestant, England and Scotland, 10,965.—Total, Roman Catholic, 2,510. Of which there were:—On licence, boys, 634, girls, 156.—Total, 790. Absconded and not recovered, boys, 108, girls, 22.—Total 130. Total under detention, viz., 10,499 boys, 2,976 girls.—Total 13,475. These numbers show a small increase on the corresponding totals of 1875, which were:—Under detention, boys, 9,774, girls, 2,908.—Total, 12,682. The number retained in the schools after the expiry of sentence was 23 boys, 21 girls; total 44. The admission to industrial schools in 1876, deducting transfers, were:—boys, 2,809, girls, 654; total 3,463. Distributed as follows:—England, boys, Protestant, 1,526; Roman Catholic, 320. Girls, Protestant, 265, Roman Catholic, 79. Scotland, boys, Protestant, 878, Roman Catholic, 85. Girls, Protestant, 257, Roman Catholic, 53. These numbers show a slight increase on those of 1875, the number of admissions for that year being 2,390 boys, 547 girls; total 2,937. Ages at admission were:—From 6 to 8, boys, 148, girls, 118; total 266. From 8 to 10, boys, 553, girls, 167; total 720. From 10 to 12, boys, 1,220, girls, 205; total 1,425. From 12 to 14, boys, 888, girls, 164; total 1,052. Family circumstances were:—Illegitimate, boys, 138, girls, 43; total 181. Both parents dead, boys, 172, girls, 57; total 229. One parent dead, boys, 1,000, girls, 238; total 1,298. Deserted by parents, boys, 121, girls, 41; total 162. One or both parents destitute or criminal, boys, 153, girls, 91: total 244. Both parents alive and able to take care of them, boys, 1,165, girls, 184; total 1,349. The discharges from industrial schools in 1876 were:—boys, 2,084, girls, 586; total 2,670: showing an increae of 116 boys and 50 girls. They were distributed as follows: To employment or service, boys, 811, girls 418. Placed out through friends, boys, 570, girls, 110. Emigrated, boys, 27, girls, 2. Sent to sea, boys, 401, Enlisted, boys, 54. Discharged as diseased, boys, 43, girls, 4. Committed to reformatories, boys, 37, girls, 8. Died, boys, 84, girls, 40. Absconded, not recovered, boys, 57, girls, 4. The deaths in 1876 were 124, in 1875 they were 147. The discharged on disease in 1876 were 47. The committed to reformatories in 1876 were 45, against 60 in 1875. The absconded and not recovered in 1876 were 61, against 68 in 1875. The total admissions to industrial schools (excluding transfers) up to December 31, 1876, were, boys, 24,770, girls, 7,249; total 32,019. The total discharges to same date (excluding transfers), were, boys, 14,248, girls, 4,252; total 18,500. These had been thus disposed of:—Employment or service, boys, 5,217, girls, 2,488. To friends, boys, 3,607, girls, 926. Emigrated, boys, 423, girls, 48. Sent to sea, boys, 2,162. Enlisted, boys, 316. Discharged as diseased, boys, 260, girls, 57. Committed to reformatories, boys, 534, girls, 97. Died, boys, 778, girls, 346. Absconded, not recovered, boys, 710, girls, 139. Specially discharged, boys, 241, girls, 151. The results of industrial schools as tested by the proportions doing well, convicted, doubtful, and unknown of those discharged in the three years 1873, 1874, 1875, were as follows:—The total discharged in these three years was 6,432, viz., boys, 5,096, girls, 1,336. There were 108, viz., 94 boys and 14 girls committed to reformatory schools, and 178, viz., 141 boys and 37 girls have died. The total to be reported on December 31, 1876, was 4,955 boys, 1,299 girls. Of the 4,955 boys—4,044 or 82 per cent. were doing well. 183 or 4 per cent. were doubtful. 257 or 5 per cent. had been convicted. 471 or 9 per cent. were unknown. Of the 1,299 girls—1,057 or 81 per cent. were doing well. 111 or 10 per cent. were doubtful. 17 or 1 per cent. had been convicted. 114 or 8 per cent were unknown. Comparing these numbers with those of 1875, we see that on the 31st December, 1875, there were 5,751 to be reported on, viz., 4,550 boys, and 1,201 girls. Of the boys—3,602 or 79·16 per cent. were doing well. 232 or 5·20 per cent. were doubtful. 240 or 5·26 per cent. had been convicted. 476 or 10·46 per cent. were unknown. Of the 1,201 girls—975 or 81·18 per cent. were doing well. 93 or 7·74 per cent. were doubtful. 35 or 29·2 per cent. had been convicted. 98 or 8·16 were unknown. 1,468 children were sent to industrial schools in England last year at the instance of School Boards; 1,049 for vagrancy and destitution, and 419 as uncontrollable. For industrial schools the financial returns show the following results:—The average cost for maintenance, including rent and expenses of disposal, and allowing for the profits of the industrial employments, which are chiefly from one kind or another of indoor trades and occupations, such as tailoring and shoe-

making, brushmaking, firewood-cutting, box-making, &c., was as follows:—In mixed schools (for boys and girls in the same institution). England, on 14 schools, 15*l*. 19*s*. 4*d*.; Scotland, on 13 schools, 12*l*. 0*s*. 8*d*. In schools for boys only—England, on 40 schools, 18*l*. 4*s*. 10*d*.; Scotland, on 6 schools, 15*l*. 8*s*. 4*d*. In schools for girls only, England, on 26 schools, 17*l*. 12*s*. 3*d*.; Scoiland, on 6 schools, 14*l*. 6*s*. 4*d*. The receipts and expenditure for industrial schools were as follows:—Receipts. — Treasury allowance, 138,310*l*. 12*s*. 7*d*.; Subscriptions, legacies, &c., 50,556*l*. 12*s*. 9*d*.; Payments from rates (County), 16,098*l*. 10*s*. 5*d*.; Payments from rates (Borough) 4,771*l*. 17*s*. 10*d*. Payments from school boards, 30,966*l*. 2*s*. 9*d*.; Payments from parochial authorities, 210*l*. 7*s*. 8*d*.; Payments from voluntary inmates, 8,076*l*. 18*s*. 10*d*.; Earnings from boys' labour, 4,709*l*. 10*s*. 7d.; Sundries, 9,107*l*. 7*s*. 11*d*.; Profits from industrial departments, 22,132*l*. 16*s*. 9*d*. Total income, 284,940*l*. 18*s*. 1*d*. Expenditure.—Salaries and officers' rations, 54,930*l*. 10*s*. 8*d*.; Food of inmates, 87,771*l*. 17*s*. 4*d*.; Clothing, 35,742*l*. 15*s*. 11*d*.; Washing and fuel, 16,394*l*. 6*s*. 4*d*.; Repairs, rates, &c., 14,947*l*. 5*s*. 2*d*.; Furniture, 11,652*l*. 16*s*. 0*d*.; Printing, 7,082*l*. 11*s*. 2*d*.; Travelling, 1,694*l*. 0*s*. 10*d*.; Medical expenses, 4,123*l*. 7*s*. 5*d*.; Sundries, 6,128*l*. 1*s*. 0*d*.; Rent, 6,349*l*. 15*s*. 11*d*.; Disposal on discharge, 4,238*l*. 1*s*. 3*d*.; Building account, 41,021*l*. 10*s*. 2*d*.; Loss on industrial departments, 93*l*. 3*l*. 5*d*.—Total expenditure, 292,170*l*. 2*s*. 7*d*.

London Fires.—Subjoined are some particulars extracted from Captain Shaw's annual report to the Metropolitan Board of Works on fires in the metropolis during 1876:—The number of calls for fires, or supposed fires, received during the year has been 1,787. Of these, 91 were false alarms, 64 proved to be only chimney alarms, and 1,632 were calls for fires, of which 166 resulted in serious damage, and 1,466 in slight damage. These figures refer only to the regular calls for fires, or supposed fires, involving the turning out of firemen, fire engines, horses, and coachmen; they do not include trifling damages by fires which were not sufficiently important to require the attendance of firemen; neither do they include the ordinary calls for chimneys on fire, which are separately accounted for further on. The fires of 1876, compared with those of 1875, show an increase of 103; and compared with the average of the last 10 years, there is an increase of 42. The proportion of serious to slight losses—166 to 1,166—shows that our success in reducing losses during 1876 has been about the same as in the previous year. The following table gives it both in actual numbers and percentages:—

Year.	Number of Fires.		
	Serious.	Slight.	Total.
1866 ..	326	1,012	1,338
1867 ..	245	1,152	1,397
1868 ..	235	1,433	1,668
1869 ..	199	1,373	1,572
1870 ..	276	1,670	1,946
1871 ..	207	1,635	1,842
1872 ..	120	1,374	1,494
1873 ..	166	1,382	1,548
1874 ..	154	1,419	1,573
1875 ..	163	1,366	1,529
1876 ..	166	1,466	1,632

Year.	Percentage.		
	Serious.	Slight.	Total.
1866 ..	25	75	100
1867 ..	18	82	100
1868 ..	14	86	100
1869 ..	13	87	100
1870 ..	14	86	100
1871 ..	11	89	100
1872 ..	8	92	100
1873 ..	11	89	100
1874 ..	10	90	100
1875 ..	11	89	100
1876 ..	11	89	100

The number of fires in the Metropolis in which life has been seriously endangered during the year 1876 has been 72, and the number of these in which life has been lost has been 29. The number of persons seriously endangered by fire has been 123, of whom 88 were saved, and 35 lost their lives. Of the 35 lost, 23 were taken out alive, but died afterwards in hospitals or elsewhere, and 12 were suffocated or burnt to death. The number of calls for chimneys has been 4,325. Of these, 1,420 proved to be false alarms, and 2,905 were for chimneys on fire. In these cases there was no attendance of engines, but only of firemen with hand-pumps. The number of journeys made by the fire engines of the 49 land stations has been 7,445, and the total distance run has been 23,120 miles. The quantity of water used for extinguishing fires in the metropolis during the year has been 21,166,178 gallons—in round numbers, a little more than 21 million gallons, or about 94,500 tons. Of this quantity, 54,433 tons, or about three-fifths of the whole, was taken from the river, canals, and docks, and the remainder from the street pipes. During the year there have been 6 cases of short supply of water, 24 of late attendance of turncocks, and 10 of no attendance, making altogether 40 cases in which the water arrangements were unsatisfactory. The strength of the brigade at present s at follows:—49 fire engine stations; 107

fire escape stations; 4 floating stations; 56 telegraph lines; 101 miles of telegraph lines; 3 floating steam fire engines; 1 iron barge, to carry a land steam fire engine; 5 large land steam fire engines; 21 small land steam fire engines; 14 7-inch manual fire engines; 58 6-inch manual fire engines: 20 under 6-inch manual fire engines; 136 fire escapes; 400 firemen, including the chief officer, the superintendents, and all ranks. The number of firemen employed on the several watches kept up throughout the metropolis is at present 95 by day and 182 by night, making a total of 277 in every 24 hours; the remaining men are available for general work at fires. Our list of wounds and other injuries for 1876 is, as usual, large; but, so long as the men work well, no diminution of accidents can be expected. There have been during the year 287 cases of ordinary illness, and 70 injuries, making a total of 357 cases, of which many were very serious, and two terminated in death. From the tables appended to the report are taken the following particulars:—(*a*) The fires classfied according to trades, arranged in the order of frequency:—1. Private houses, 327. 2. Lodgings, 193. 3. Victuallers, 58. 4. Farming stock, 41. 5. Oil and colourmen, 31. 6. Cabinet makers, 30. 7. Tailors, clothiers, and outfitters, 30. 8. Stables, 25. 9. Grocers, 25. 10. Drapers, 22. 11. Boot and shoe makers, 22. 12. Booksellers and stationers, 22. 13. Builders, 21. 14. Under repairs and building, 20. 15. Railways, 17. 16. Coffee houses, 17. 17. Greengrocers and fruiterers, 17. 18. Carpenters and workers in wood (not cabinet makers), 15. 19. Bakers, 15. 20. Schools, 14. 21. Chandlers, 14. 22. Engineers and machinists, 13. 23. Hairdressers, 13. 24. Printers, 13. 25. Let out in tenements. 12. 26. Milliners and dressmakers, 12. 27. Laundries, 12. 28. Furniture makers and dealers, 12. 29. Confectioners and pastrycooks, 12. 30. Refreshment rooms, 11. 31, Beershop keepers, 11. Total, 1,097. Remainder, varying from 10 to 1, 535. Total 1,632.

(*b*) The fires classified according to the causes to which they have been assigned, arranged in the order of frequency:—1. Unknown, 331. 2. Lamps (not gas) and lights, 249. 3. Sparks from fires, &c., 179. 4. Flues, defective, 175. 5. Candle, 152. 6. Gas, 146. 7. Children playing with fire and matches, 60. 8. Hot ashes, 47. 9. Overheating of stoves, coppers, kilns, ovens, and furnaces, 44. 10. Airing and drying stoves, 32. 11. Smoking tobacco, 28. 12. Lucifers, 27. 13. Vapour of spirits and oil, 24. 14. Boiling over of oil, fat, pitch, &c., 23. 15. Spontaneous ignition, 17. 16. Stoves, &c., improperly set, 13. 17. Overheating of boilers, &c., 13. 18. Lime, 12. 19. Hearths and fire-places, defective, 11. 20. Burning rubbish, 9. 21. Miscellaneous and doubtful, 40. Total, 1,632.

(*c*) The usual summaries for 1876 show:—that the greatest number of fires occurred in July (214), and the smallest number in October (110); that the largest number of fires (260) occurred on Sunday, and the smallest number (218) on Monday; and that the hours during which the greatest number of fires have occurred are from 8 to 10 P.M., and those most exempt from such disaster are from 5 to 8 A.M. With reference to the daily summary, the following table, which gives the total of the fires for each day of the week for the last ten years, shows on the average that the largest number of fires occur on Saturday and the smallest number on Monday. The annual average number of fires for the ten years is 1,620. The table includes ten years, 1867 to 1876.

Years.	Sunday.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.	Total.
1867 ..	202	169	219	210	191	198	208	1,397
1868 ..	233	227	234	267	229	225	253	1,668
1869 ..	220	220	229	251	199	235	218	1,572
1870 ..	290	252	258	266	300	258	322	1,946
1871 ..	286	202	247	302	271	258	276	1,842
1872 ..	199	206	213	207	220	220	229	1,494
1873 ..	202	209	237	199	230	243	228	1,548
1874 ..	222	228	228	195	240	231	229	1,573
1875 ..	200	203	231	227	236	209	223	1,529
1876 ..	260	218	226	235	242	221	230	1,632
Total..	2,314	2,134	2,322	2,359	2,358	2,298	2,416	16,201

The number of lives lost during the year by fire is 35, the number saved 88. Captain Shaw, in his report, recommends six firemen for special merit, who collectively saved 23 lives during the year.

LOCAL LOANS.—The amount of the local loans outstanding in England and Wales in the year 1870 was 26,028,000*l.*; in 1871 it had risen to 38,250,000*l.*; in 1872 to 41,379,000*l.*; in 1873 to 43,891,000*l.*; in 1874 to 56,065,000*l.* (but 6,000,000*l.* of this apparent increase was due to the omission in previous returns of municipal loans raised under certain local Acts). In 1875 the local debt was 64,765,000*l.*, and the

accounts before us do not go further than that year. But a table of figures shows the new borrowing powers granted to urban authorities. The metropolis and the rural district are excluded from this table, and therefore the amounts are not at first sight so striking as they appear on comparing them with the rateable value. But assuming that one-third of the amount authorised has been borrowed, the urban debts (excluding the Metropolitan loans) at the commencement of 1877 may be taken at 42,000,000*l.*, and the annual charge for them (including instalment and sinking fund) at a tenth of this, or 4,200,000*l.*, which is equal to two shillings in the pound on the whole rateable value. Rateable value is far from increasing in proportion to debt. Taking the whole country, it rose from 104,095,000*l.* in 1870 to 119,079,000*l.* in 1875, or less than 20 per per cent., while the debt increased, as will have been observed, between 200 and 300 per cent. in the same period. At the end of 1874-5 the borough and urban sanitary debts were nearly equal to a year's rateable value of the boroughs and other urban districts, and the annual charge of those debts was to the municipal and sanitary rates as 40 to 75. The rural sanitary debts were still small at the date of the last accounts. But such debts did not begin to be incurred until the end of 1873, and the rate of growth is very rapid. Much difficulty arises in dealing with the statistics from the very evils which they expose. The returns of different authorities are not made up to the same date. It is impossible to ascertain with accuracy what share of poor relief falls on urban and what on rural places. Even within urban sanitary districts the capital expenditure on sewerage, on streets, on gas works, and on water supply, is not distinguished from the ordinary expenses of maintenance.

Local Board Districts.—There are about 640 local board districts in England and Wales, many of them with very small populations. In Lancashire and Yorkshire there are 75 with less than 3,000 in population, and seven of these have fewer than 500 inhabitants. Their areas frequently cut the area of the Poor Law parish, and not seldom that of the union. Mossley, in "Lancashire, &c.," comprises parts of four parishes, two unions, and three counties. They are governed by incorporated local boards, the number of whose members may be altered from time to time by the Local Government Board. The members are elected for three years, retiring annually by thirds. The qualification is 1,000*l.* property, or 30*l.* rating in a district with at least 20,000 inhabitants, and half these sums in smaller districts. Owners and ratepayers are the electors, with one vote for every 50*l.* of rating up to six votes. The purposes of this organisation are the objects most recently defined in the Public Health Act, 1875, as sanitary purposes. The local board may also in certain cases receive powers to enforce the Education Act of 1876. The general district rate differs from the poor rate in this—that agricultural land, railways, canals, and tithes are assessed at only one-fourth part of their full rateable value There are about 70 Improvement Act districts under local statutes, and similar in character to the local board districts. Portions of the Lighting and Watching Act of 1833 have been adopted by about 230 parishes or parts of parishes, chiefly in the Southern and Midland counties. The Act enables "inspectors" to be elected, and a rate to be levied like the general district rate of local boards; but the aggregate expenditure under the Act was only 44,000*l.* in 1874.

Deaths and Injuries in Industrial Occupations.—The following table shows the deaths and injuries in some industrial occupations in England from 1873 to 1876.

	1873.		1874.		1875.		1876.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
By Boilers	53	84	68	146	67	96	88	103
In Mines	1,069	*15,000	1,056	*15,000	1,244	*15,000	*1000	*15,000
On Railways	773	1,171	788	2,815	765	3,628	673	2,600
At Factories:—								
Adults—Male	221	2,767	253	2,574	216	2,575	194	2,440
,, Female ..	9	683	17	692	11	605	1	626
Young Persons—Male.	66	2,014	69	1,945	67	1,697	45	1,691
,, ,, Female	12	918	13	929	8	712	4	731
Children—Male ..	13	481	10	531	12	455	14	377
,, Female ..	..	218	5	215	3	201	2	159
	2,216	23,336	2,279	24,847	2,393	24,969	2,021	23,727

Total casualties, 105,788.
* Estimates.

6. EDUCATION, SCIENCE, AND ART.

Progress of Education in Great Britain.—The following table exhibits the progress of education in Great Britain in schools under Government inspection from 1859 to 1876, distinguishing England and Wales from Scotland:—

Years ended 31st August.	Number of Schools Inspected.	Number of Children who can be Accommodated.	Average number of Children in Attendance.	Number of Children present at Inspection.
	England and Wales (including Isle of Man and Roman Catholic Schools for Great Britain).			
1859	5,531	1,054,813	674,602	757,082
1864	6,470	1,332,553	862,817	983,928
1869	8,592	1,838,416	1,153,572	1,448,299
1874	13,084	2,952,479	1,710,806	2,093,180
1875	14,067	3,229,112	1,863,176	2,273,721
1876	14,875	3,483,789	2,007,732	2,448,299
	Scotland (exclusive of Roman Catholic Schools, included above).			
1859	1,055	154,228	126,799	123,049
1864	1,421	188,904	148,317	149,363
1869	1,745	237,928	179,214	191,203
1874	2,587	391,592	274,588	314,576
1875	2,890	407,002	312,346	357,668
1876	2,912	462,986	332 545	382,224
	Total for Great Britain.			
1859	6,586	1,209,041	801,401	880,131
1864	7,891	1,521,457	1,011,134	1,133,291
1869	10,337	2,076,344	1,332,786	1,639,502
1874	15,671	3,344,071	1 985,394	2,407,756
1875	16,957	3,636,114	2,175,522	2,631,389
1876	17,787	3,946,775	2,340,227	2,830,523

Annual Parliamentary Grants for Education in England from 1833 to 1877.

1833—1838	£20,000	1862 . .	£842,119
1839—1841	30,000	1863 . .	804,002
1842—1844	40,000	1864 . .	705,404
1845 . .	75,000	1865 . .	693,078
1846—1850	115,000	1866 . .	694,530
1851 . .	150,000	1867 . .	705,865
1852 . .	160,000	1868 . .	781,324
1853 . .	260,000	1869 . .	840,711
1854 . .	263,000	1870 . .	914,721
1855 . .	396,921	1871 . .	1,458,402
1856 . .	451,213	1872 . .	1,551,560
1857 . .	541,233	1873 . .	1,299,803
1858 . .	663,435	1874 . .	1,356,852
1859 . .	836,920	1875 . .	1,548,563
1860 . .	798,167	1876 . .	1,707,055
1861 . .	803,794	1877 . .	1,910,000

School Board Rates in 1876.—A Parliamentary paper respecting School Board expenditure shows that the London School Board rate of 3·74*d.* in the pound in the year 1876 was exceeded in three out of the ten largest towns in England, and in four of the ten largest towns in Wales. In Swansea the rate was 8*d.*, in Carmarthen, 7*d.*; in Merthyr Tydfil, 6·54*d.*; in Bradford, 4·34*d.*; in Sheffield, 4·5*d.*; in Leeds, 4*d.*; and in Llanelly, 3·75*d.* In three boroughs and forty-six parishes in England and in eighteen parishes in Wales the rate was above 1*s.* in the pound; it was 9*d.* and below 1*s.* in three boroughs and seventy-five parishes in England, and one borough and eighteen parishes in Wales; and of 6*d.* and below 9*d.* in fifteen boroughs and 199 parishes in England, and in three boroughs and fifteen parishes in Wales. The highest rate in an English borough was in Chard, Somerset, where the rate was 1*s.* 6¼*d.*, and the highest rate in an English parish was at Offham, Kent, where the rate was 2*s.* 5*d.* In Wales the highest borough rate was 10*d.* in Cardigan, and the highest parish rate, 2*s.* 2¼*d.*, at Killybebill, Glamorgan.

English Literature in 1876.—The following extracts and monthly summary of books published in 1876, are taken from the December (1876) number of the *Pub-*

lishers' Circular, issued by Messrs. Sampson Low and Co.:—Last December, in examining the statistics for the year, we had occasion to express our surprise at the favourable nature of the returns. It is again our pleasant duty to chronicle a degree of prosperity which the most sanguine individual could hardly have predicted. While it must be regretted that there has been a decline in the number of new works issued in some of the most important branches of literature, the total number of books published in 1876 shows a satisfactory increase as compared with 1875. The year has been marked by a decided falling-off in new books, and an increase, equally noteworthy, in new editions. Let us hope that the modest increase of the past year may be set down to a delicate indication of improvement in the general trade of the country. The number of works published during 1876, as compared with the previous year, stands thus:—1876, 4,888; 1875, 4,854. In theology there has been a decline; a fact which may or may not prove satisfactory. Many distinguished theologians have doubtless been devoting their leisure to education and to social reform. In theology we chronicle a falling short of 66 from the number of 1875. In educational, classical, and philological works, as might have been expected, we note steady progress in the number of new works and reprints. This year produced 470; last year, 335. Juvenile works and tales have nearly doubled in number. There are for 1876, 419, while for the previous year only 217. It would be well could we add that the standard of juvenile literature had made a corresponding advance. Law has added wonderfully to its literature. In 1876, 164; in 1875, 114. Fiction exhibits a remarkable decline. In 1876, 857; the previous year, 974. Political and social economy, trade, and commerce show a decided advance, owing probably to political complications in Europe, social and administrative reform at home, and the continued abnormal depression of trade at home and abroad. Of this class were produced, in 1876, 377; in 1875, 101. Art, science, and illustrated works exhibit a diminution, caused by the cost of illustrations in part, probably, and by the continued stagnation of art and other industries. In 1876 we chronicled 252, against 572 in 1875. Voyages and travels have also declined. Happily the importance of the works of this year, in a measure, compensate for the loss in numbers. 270 are set down to 1876, and 300 to 1875. Of history, biography, &c., there were, in 1875, 391, against 347 this year. Poetry and the drama fall short of the previous year. This is much to be regretted, as they might have afforded a sweet solace to the British public in its hours of depression. In 1876 were issued 323; in 1875, 348. The reprints are in excess of last year. Medicine, surgery, &c., have scored a good innings for this year compared with last, for which we may be partly indebted to the increased activity of the medical profession, and partly to the threatened spread of dangerous epidemic disease. Belles lettres, essays, monographs, &c., are about on a par with last year. In 1876 the number is 176; in 1875, 177. Miscellaneous, including pamphlets, not sermons. In 1876 were issued 166; in 1875, 201. It will be gathered from the foregoing statistics that there is no immediate prospect of a collapse in the intelligence or taste of the British public.

Summary for each Month.

	New Books.	New Editions.	American Importations.
January ...	149	51	30
February	204	146	35
March	389	210	34
April ...	247	129	29
May ...	199	180	25
June ...	237	161	26
July ...	279	210	49
August ...	124	94	14
September	132	80	21
October ...	240	206	32
November	249	192	41
December	512	298	41
	2,931	1,957	377

ENGLAND AND WALES.—The report of the Committee of Council on Education in England and Wales for 1876–77 states that the schools in England and Wales visited by the inspectors for the purpose of annual grants, which provided in 1869 for 1,765,944 scholars, or for 8·34 per cent. of the whole population, were in 1876 sufficient for 3,426,318 scholars, or 14·13 per cent. of the estimated population. There has thus been an addition of room, in aided schools, for 1,660,374 children in seven years. The average attendance in aided schools (day and night) has risen from 1,225,764 in 1870 to 2,134,431 in 1876. There were, in 1876, 2,943,774 names of day scholars on the registers of inspected day schools (of whom 2,412,211 were present each day of inspection), and this is the number of children, out of at least four and a half millions for whom elementary schools are required, who received more or less of efficient instruction in such schools during the past year. Of the day scholars on the registers 1,041,219 were below, and 1,902,555 above, seven years of age. With regard to the supply of teachers, the report states that there were on the 31st of December, 1869, 12,842 pupil teachers, 12,236 assistant teachers, and 12,027 certificated teachers at work in schools under inspec-

tion. These numbers by the 31st of December, 1876, had risen to 30,626 pupil teachers, 2,921 assistant, and 23,328 certificated teachers; while the pupil-teachers in the first of the five years of their service have increased from 3,392 in 1869 to 6,676 in 1876. School boards have been established in 123 out of 223 boroughs in England and Wales, with a total population of 5,543,956; and in 1667 out of 2,346 parishes, with a total population of 4,018,888. Including London, the total population under school boards is 12,829,381. By the 1st of April, 1877, by-laws for enforcing the attendance of children at school had been sanctioned in accordance with the terms of the Act of 1870, on the application of the school boards of London, with a population of 3,266,987; 109 municipal boroughs, 5,453,724; 612 civil parishes, 2,500,652: total, 11,221,363. Compulsory attendance at school, under by-laws, is now the law for 50 per cent. of the whole population of England and Wales, and for about 84 per cent. of the whole borough population.

THE BUDGET OF THE LONDON SCHOOL BOARD.—The following is the report from the Finance Committee giving the estimates of expenditure from the 25th of March, 1877, to the 25th of March, 1878. The estimated liabilities for this period (including a deficiency of 28,794*l.* for the year to be ended the 25th of March, 1878,) amounted to 506,353*l.*, which sum is equal to a rate of about 5¼*d.* in the pound on the whole rateable value of the metropolis. The deficiency of 28,794*l.*, it was stated, had arisen from two chief causes. In the first place, there had been an excess of expenditure during the current year of 16,822*l.* 8*s.* 5*d.* In the second place, there was a balance of 11,972*l.* 8*s.* 9*d.*, which had been paid for furniture for new schools during the half-years previous to the 25th of March, 1876, which the Education Department would not allow to be charged to capital account. The principal increase was in school maintenance, and the causes of this were, firstly, an increase of 34,561 in the number of children for whom it was expected the Board would have to provide accommodation during the year; and, secondly, an increase of about 6*s.* per child in the ensuing year beyond the estimated cost for the current year. The average net cost and maintenance of the children in Board Schools for the year ending March, 1878, was 1*l.* 14*s.* 2*d.* per child, and the total cost it was estimated would be 253,512*l.* 10*s.* The estimated expenditure for enforcing compulsion showed an increase from 24,000*l.* to 27,413*l.* which was owing to an increase in the number of visitors, and an increase of salaries in accordance with the scale, and also to the fact that compulsory education was now better enforced than it had been. There was also an increase in the estimated expenditure for industrial schools and in the officers' expenses. The report also stated that the permanent debt of the Board stood at 2,411,180*l.*, and it was estimated that in addition to this sum 100,000*l.* more would be required, making in the whole 2,511,180*l.* as the amount of the Board's debt. Upon this the ratepayers of London would have to pay annually for fifty years the sum of 108,215*l.*, and for this annual payment the ratepayers possessed a spendid estate of 164 freehold schools, fitted and opened, and giving accommodation for 143,135 children, without reckoning the other twenty-five sites which had been purchased, and upon which schools were being built to give further accommodation for 18,858 children

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GRANTS FOR PRIMARY EDUCATION.—A Parliamentary paper relating to grants to elementary schools and the results of their inspection, shows that in the year ending March 31st, 1876, the total expenditure from education grants (including grants to training colleges, pensions to teachers, and expenses of administration) was 1,532,610*l.* 17*s.* 11*d.*, which was a net increase over the previous year of 175,863*l.* 18*s.* 6*d.* The grants to Church of England schools amounted to 879,945*l.* 8*s.* 9*d.*, which was an increase of 57,379*l.* 19*s.* 4*d.* over 1875; British, Wesleyans, and other schools received 253,816*l.* 19*s.* 7*d.*, or 17,929*l.* 13*s.* 1*d.* more than in 1875; Roman Catholic Schools, 81,110*l.* 3*s.* 3*d.*, an increase of 7,228*l.* 3*s.* 10*d.*; Board Schools, 173,778*l.* 16*s.* 7*d.*, an increase of 83,547*l.* 5*s.* 9*d.* and parochial union schools, 120*l.* The expenses of administration amounted to 140,050*l.* 1*s.* 1*d.*, an increase of 13,908*l.* 10*s* 8*d.* over the previous year; the organisation of districts cost 3,404*l.* 12*s.* 4*d.* and grants to school boards, Act 33 and 34 Vict., cap. 75, sec. 97, amounted to 384*l.* 16*s.* 4*d.*, an increase of 76*l.* 5*s.* 5*d.* over 1875. The total expenditure from education grants from 1839 to March 31st, 1876, was 17,520,036*l.* 6*s.* 10*d.*, of which Church of England schools received 13,343,386*l.* 15*s.* 4*d.*; British, Wesleyan, and other schools, 2,923,711*l.* 6*s.* 1*d.*; Roman Catholic Schools, 817,535*l.* 11*s.* 2*d.*; Board Schools, 330,616*l.* 15*s.* 5*d.*; parochial union schools, 38,803*l.* 9*s.* 9*d.*; and other schools, 189*l.* 4*s.* 10*d.*

7. EMIGRATION.

EMIGRATION 1862–1876.—The following is the number of emigrants, of British origin only, from the United Kingdom to countries out of Europe; and number of immigrants into the United Kingdom from such countries:—

Years.	Emigrants to					Immigrants.
	British North American Colonies.	United States.	Australia and New Zealand.	Other Places.	Total.	
1862 ..	8,328	48,726	38,828	1,881	97,763	Not ascertained.
1863 ..	9,665	130,528	50,157	2,514	192,864	
1864 ..	11,371	130,165	40,073	5,472	187,081	
1865 ..	14,424	118,463	36,683	5,321	174,891	
1866 ..	9,988	131,840	23,682	4,543	170,053	
1867 ..	12,160	126,051	14,023	4,748	156,982	
1868 ..	12,332	108,490	12,332	5,033	138,187	
1869 ..	20,921	146,737	14,457	4,185	186,300	
1870 ..	27,168	153,466	16,526	5,351	202,511	49,157
1871 ..	24,954	150,788	11,695	5,314	192,751	53,827
1872 ..	24,382	161,782	15,248	9,082	210,494	70,181
1873 ..	29,045	166,730	25,137	7,433	228,345	86,416
1874 ..	20,728	113,774	52,581	10,189	197,272	118,129
1875 ..	12,306	81,193	34,750	12,426	140,675	94,228
1876 ..	9,335	54,554	32,196	13,384	109,469	91,647

IRISH EMIGRANTS.—The emigration statistics for Ireland for the year 1876 show that the total number of emigrants who left Irish ports during the year was 38,315, a decrease of 14,082 as compared with 1875. The number of emigrants who were natives of Ireland was 37,587. The total number of emigrants—natives of Ireland—who left the Irish ports from the 1st of May, 1851 (the date at which the collection of the returns commenced), to the 31st of December, 1876, is 2,414,978—1,288,969 males and 1,126,009 females. The number for each year is given in a table, from which it appears that emigrants from Ireland were much fewer in number in 1876 than in any of the other years under review. In 1876, as before stated, they numbered 37,587, or 6·9 per 1,000 of the population in 1871, while in the preceding twenty-four years they amounted to an annual average of 92,722 persons, or 16 per 1000 of the population, fluctuating from 190,322 in 1852 to 51,462 in 1875. The destinations of the 37,587 emigrants—natives of Ireland—who left the country in 1876 were as follows:—United States, 14,887; Scotland, 8,807; England and Wales, 7,980; Australia, 3,635; New Zealand, 1,558; Canada, 667; other countries, 43.

THE TIDE OF EMIGRATION.—There is a remarkable variation in the annual number of emigrants from the United Kingdom, and within the last fifteen years it has fluctuated from 97,763 in 1862 to 228,345 in 1873, the highest number reached during the period under review. The average annual number of British-born emigrants for the fifteen years is 172,375. From this it will be seen that since 1873, when the highest point in the table was reached, there has been a steady and progressive decrease, and in 1876 the figures had fallen to less than half the total of 1873. Out of the 109,469 emigrants who left the United Kingdom in 1876, the United States was the destination of one-half, one-twelfth went to the British Colonies in North America, more than one-fourth to Australia and New Zealand, and the remainder to a variety of places. The tide of emigration to the Australian Colonies which had fallen considerably from 1867 to 1871, has risen again, while the emigrants to British North America are steadily decreasing. The emigrants to the United States, although still far outnumbering those to any other country, show a greatly reduced proportion to the total, as while they now represent one-half from 1865 to 1871, they formed three-fourths of the whole.

8. THE POST OFFICE.

THE WORK OF 1876.—During the year 1876, 221 new offices were established, raising the total number of Post Offices in the United Kingdom to 13,447; of which number 896 are head offices. The number of road letter boxes was increased from 10,186 in 1875, to 10,724 in 1876. Thus, the total number of postal receptacles in the United Kingdom is now 24,171, as compared with 16,835 ten years ago, and with little more than 4,500 before the establishment of Penny Postage in 1840. The postal receptacles in London alone number no less than 1,803. The number of pouches delivered by apparatus from the Travelling Post Offices during 24 hours is now 521, and the number received 478, being 999 in all, as against 978 exchanged per diem in 1875. The following table shows the estimated number of letters, post cards, book packets, and newspapers which passed through the Post in 1876, as also the rate of increase on the previous year, together with the proportion of letters to population:—

	No. of Letters in 1876.	Increase per cent. on No. in 1875.	No. of Post Cards in 1876.	Increase per cent. on No. in 1875.
England and Wales ..	856,042,400	1·1	78,412,100	6·9
Ireland	71,792,100	1·7	4,883,500	7·5
Scotland	91,120,700	0·2	9,640,100	4·7
United Kingdom ..	1,018,955,200	1·0	92,935,700	6·7

	No. of Book Packets and Newspapers in 1876.	Increase per cent. on No. in 1875.	No. of Letters per head.
England and Wales ..	241,866,100	6·7	35
Ireland	24,146,600	3·0	13
Scotland	32,778,100	10·9	26
United Kingdom ..	298,790,800	6·8	31

The total estimated number of newspapers was 125,065,800. The number of letters registered in the United Kingdom during 1876 was 5,095,116, being in the ratio of about one registered letter to 200 ordinary letters. Of these, 867,875 were official remittance letters, &c. Excluding the official remittance letters the ratio of registered letters to ordinary letters would be as 1 to 241. This is the first time for several years that the number of registered letters has been ascertained by actual counting.

TELEGRAPHS.—Owing to the depression in trade, the increase in the amount of telegraphic business during the 15 months ended the 31st March, 1876, fell considerably short of the increase in previous years. The number of messages dealt with was 26,440,439, being an increase of 960,000 over the number in the preceding 15 months. The amount of matter transmitted on behalf of the Press was about equal to the amount transmitted in the preceding 15 months. The number of Post Offices open for the transaction of telegraph business on the 31st March, 1877, was 3,734, in addition to which there were 1,636 railway stations open for the transaction of public telegraph business. On the 12th April, 1876, the Post Office acquired by purchase the undertaking of the Orkney and Shetland Islands Telegraph Company. Telegraphic communication was seriously interrupted on three separate occasions by heavy snow storms. With a view, as far as possible, to obviate such interruptions in future, and to prevent the recurrence of accidents which have happened in consequence of the fall of wires in crowded thoroughfares, a considerable mileage of overground line has been replaced by underground wires. At the time of the transfer of the telegraphs to the Post Office the total length of underground wire was 1,928 miles. On the 31st March last it had been increased to 8,014 miles. On the 1st April, 1876, distinctive stamps for the prepayment of messages were introduced. Up to that date postage stamps had been used; and in order to ascertain the value of the stamps used in the prepayment of messages, it was necessary to keep elaborate accounts. By the introduction of distinctive stamps, it has been possible to simplify the accounts considerably, and thereby to effect a material saving in expense. The Department having been frequently asked to give re-

ceipts for messages, a form of recepti was brought into use on the 1st February; but, as was anticipated, very little use has been made of it.

STAFF OF OFFICERS.—The total number of officers employed by the Post Office Department in 1876 was 45,024; being an increase of 380 on the numbers of the previous year. Of that total, 11,654 are employed exclusively on Telegraph work. The number of Postmasters is 13,447; of clerks there are more than 10,000; and of letter carriers, sorters, and messengers, over 21,000 In London alone, the staff employed is 10,380, and of this number over 5,500 are attached to the chief offices in St. Martin's-le-Grand.

REVENUE AND EXPENDITURE.—The total postal revenue in the year ended 31st March, 1877, amounted to 6,017,000*l.*, as compared with 5,815,000*l.* in the year ended 31st December, 1875, the increase being 202,000*l.* The expenditure pertaining to the year ended 31st March, 1877, was 4,070,000*l.*, as compared with 3,921,000*l.* in the year ended 31st December, 1875, the increase being 149,000*l.* This increase, which is larger than usual, is in part owing to the sum of 60,859*l.* having been paid towards the purchase of the site of the Manchester new Post Office. The cost of the Packet Services, on the other hand, shows a decrease of 56,000*l.*, which is in part attributable to the favourable arrangements made for conveying the American, West Indian, and Pacific Mails. The chief items of expense were 2,046,000*l.* for salaries, wages, pensions, &c.; 780,000*l.* for conveyance by mail packets and private ships; 684,000*l.* for conveyance by railway; 171,000*l.* for conveyance by coaches, carts, and omnibuses; and 206,000*l.* for buildings, repairs, &c. The gross earnings of the Telegraph Service in the year ended the 31st March, 1877, amounted to 1,313,000*l.* as compared with 1,277,000*l.*, the amount of the gross earnings in the previous financial year, the increase being 36,000*l.* Work was performed for other Government Departments without payment to the value of 13,845*l.* The expenditure in the year ended 31st March, 1877, amounted to 1,123,000*l.*, as compared with 1,032,000*l.* in the preceding financial year, the increase being 91,000*l.*

MONEY ORDERS.—On the 31st March, 1877, the total number of Money Order Offices in the United Kingdom was 5,498; showing an increase upon the number open on the 31st December, 1875, of 238. In the year ended the 31st March, 1877, the number of Inland Orders issued was 17,822,921, the increase on the number for the year ended the 31st December, 1875, being 1,337,260, or at the rate of about 8$\frac{1}{10}$th per cent. The aggregate amount of the Orders was 27,516,698*l.*, and their average value 1*l.* 10*s.* 10*d.* Thus the gradual decrease in the average value of Money Orders, which followed the introduction of cheaper rates for orders of small amounts still continues, the average value of orders in 1873, 1874, and 1875 having been 1*l.* 13*s.* 0*d.*, 1*l.* 12*s.* 6*d.*, and 1*l.* 12*s.* 2*d.* respectively. The average number of Money Orders per 100 persons in the three divisions of the United Kingdom was as follows: viz., England and Wales 62·9, Scotland 41·7, Ireland 22·3. These figures show a growing use by the public of the Money Order system, the principal increase, however, being in orders for small amounts. The number of Money Orders exchanged between this country and the Colonies was 145,838, showing a further decrease in that branch of business of 15,388 orders. Although the number of Money Orders received from the Colonies has, from the commencement, been much larger than the number sent hence to the Colonies, it is to be remarked that the figures for the year ended the 31st March, 1876, as compared with those for the year to the 31st December, 1875, show an increase in the latter and a considerable decrease in the former. The Money Order transactions with foreign countries show an increase as regards remittances in both directions. The remittances from this country show an increase in number of 26,757, and in amount of 64,121*l.*; and the remittances from foreign countries an increase in number of 11,419, and in amount of 5,715*l.* The total number exchanged in both directions was 211,163, the aggregate value being 612,925*l.* The large increase in the number of Inland Money Orders for small amounts, on which the commission is insufficient to cover the cost of the service, has at length resulted in a net loss on the Money Order business as a whole, such loss being for the quarter ended 31st March, 1877, at the rate of 10,000*l.* a year.

SAVINGS BANK DEPARTMENT. — During 1876 there were 188 new offices opened for Savings Bank business, 153 in England and Wales, 23 in Scotland, and 12 in Ireland, the total number of such offices at the close of the year being 5,448. Seven Trustee Savings Banks, viz., those at Chertsey, Newnham, Chesterfield, Beaumaris, Birstall, Islington, and Bridgend, were closed, the total number of old Savings Banks being thus reduced to 466. The sum of 111,476*l.* was transferred from these Banks to the Post Office Savings Banks; accounts amounting to 17,681*l.* were also transferred by certificate from old Savings Banks, as also about 3,780*l.* in cash, raising the total amount transferred to the Post Office Savings Banks during the year to 132,937*l.* The number of accounts open at the end of 1876 was

1,702,374 as against 1,777,103 at the close of 1875. The decrease is not however due to accounts being closed in large numbers by the depositors, but to the transfer to "dormant" ledgers of many accounts carrying but small balances and on which no operation had taken place for a considerable period. Had these accounts not been specially treated, the number of depositors' accounts would have shown an increase of 92,648. The total amount of the balances at the credit of depositors, together with interest accrued at the close of 1876, was 26,996,550*l*., being an increase of 1,809,205*l*. on the total of the previous year. The number of deposits made in 1876 was 3,166,136, and the number of withdrawals 1,195,603; the average amount deposited being 2*l*. 16*s*. 9*d*. and the average amount withdrawn 6*l*. 10*s*. 4*d*. As compared with the transactions of 1875, the average of deposits in 1876 has been slightly larger and that of withdrawals slightly smaller. The proportion of depositors to population (excluding depositors whose accounts have been carried to the "dormant" ledgers), was 1 to 19 in the United Kingdom; or 1 to about 15 in England and Wales, 1 to about 71 in Scotland, and 1 to about 87 in Ireland. The sums deposited during 1876 amounted in the aggregate to 8,982,350*l*. and the sums withdrawn to 7,792,477*l*. The amount of interest credited to depositors on accounts for the year was 619,331*l*., being 47,747*l*. in excess of the sum credited for 1875. The average amount standing at the credit of depositors (excluding the depositors whose accounts have been transferred to the "dormant" ledgers) was 15*l*. 17*s*. 1¾*d*. Had these accounts been included the average would have been somewhat less, viz., 14*l*. 8*s*. 9¼*d*., but even this shows an average increase on the balances of the previous year of 0*l*. 5*s*. 3¾*d*. The average daily number of deposits was 10,347.

The Controller in his report adds:—"The number of depositors' books issued during the year 1876, in place of books lost or destroyed, was 1,968; being 325 more than those similarly supplied during the previous year. In the first quarter of this year, however, the number issued was only six in excess of those issued in the first quarter of last year, the numbers being respectively 590 and 584. The number of applications respecting missing books, which in 1875 had been 17,767, fell last year to 9,743; the falling off having mainly occurred in the first three months of the year, when there is a great influx of books. This decrease was the satisfactory result of the efforts made to insure greater promptitude in the examination and return of books at that period of the year; and, owing to the same cause, there has been a still greater reduction during the first quarter of this year, the number of applications received having been 3,341 as against 3,804 during the first quarter of last year. This reduction is the more remarkable when the increase in the number of books sent up for examination at this period is considered, the number received for the first quarter of the present year having been 275,394 as against 260,931 during the corresponding period last year. During last year, 387 friendly societies and 1,173 trade, provident, and charitable societies were authorised to invest their funds. These numbers show an increase on the preceding year of 36 and 86 respectively, which is no doubt chiefly to be attributed to the number of societies' accounts transferred at the closing of the old savings banks.

Curiosities of the Post Office.—During the year 1876 a registered letter addressed to a bank was observed to be altogether unfastened, and it contained bank notes to the value of 3,000*l*. During the 15 months ended the 31st March, 1877, the number of letters received in the Returned Letter Office was 5,897,724, being an estimated increase per annum upon the numbers of 1875 of 371,890. The number of letters sent to the Returned Letter Office was about 1 in every 216 of the total number of letters. It was found possible either to return to the writers or to reissue nearly nine-tenths of the whole number received. Upwards of 33,100 letters were posted without addresses, being an estimated increase of 1,000 upon the number of 1875. 832 letters thus posted were found to contain in the aggregate nearly 390*l*. in cash and bank notes, and nearly 5,000*l*. in cheques, &c. The number of newspapers for places abroad detained for insufficient postage or other causes was 203,335, being at the rate of 162,668 per annum. This compares favourably with the number detained in 1875, which was 166,000. The continued decrease of newspapers detained is probably due in a great measure to a better acquaintance on the part of the public with the rates and regulations prescribed for this class of correspondence. 78,575 postage stamps were found loose in the different Post Offices. The number of offices for the return to the writers of letters which cannot be delivered has been increased, that work now being carried on not only at the Metropolitan offices of London, Edinburgh, and Dublin, but at Manchester, Liverpool, Birmingham, Leeds, and Glasgow. The result is that the return of such letters is considerably accelerated. Miscellaneous articles, numbering 14,346, reached the Returned Letter Office, wholly destitute of covers. That so large a number of articles should reach that office is mainly due to the use by the public of flimsy covers quite unsuitable for the purpose. In the Returned Letter Office, London, the number of inquiries dealt with was about 89,000.

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9. MISCELLANEOUS.

The following is a return of the quarterly averages of the weekly liabilities and assets of the Bank of England from 1862 to 1876:—

Years.	Quarter ended	Liabilities.			Assets.		
		Notes in Circulation.	Deposits.	Total.	Securities.	Bullion.	Total.
		£	£	£	£	£	£
1862	March 26	21,046 000	20,985,000	42,031,000	29,417,000	16,099,000	45,516,000
	June 25	21,557,000	21,548,000	43,105,000	29,953,000	16,369,000	46,322,000
	September 24	22,473,000	22,368,000	44,841,000	30,747,000	17,552,000	48,299,000
	December 31	21,129,000	21,985,000	43,114,000	30,961,000	15,351,000	46,312,000
1863	March 25	20,399,000	21,412,000	41,811,000	30,936,000	14,322,000	45,258,000
	June 24	21,116,000	21,911,000	43,027,000	31,386,000	14,878,000	46,264,000
	September 30	21,935,000	20,538,000	42,473,000	30,965,000	15,068,000	46,033,000
	December 30	21,730,000	20,805,000	42,535,000	31,777,000	13,934,000	45,711,000
1864	March 23	20,813,000	21,067,000	41,880,000	31,608,000	13,771,000	45,379,000
	June 22	21,263,000	20,648,000	41,911,000	31,702,000	13,485,000	45,187,000
	September 28	21,592,000	19,166,000	40,758,000	31,395,000	13,062,000	44,457,000
	December 28	20,771,000	19,070,000	39,841,000	29,570,000	13,636,000	43,206,000
1865	March 29	20,560,000	20,157,000	40,717,000	30,572,000	14,582,000	45,154,000
	June 28	21,525,000	20,850,000	42,375,000	30,967,000	15,388,000	46,355,000
	September 27	22,450,000	19,666,000	42,116,000	31,908,000	14,557,000	46,465,000
	December 27	21,819,000	18,365,000	40,184,000	30,613,000	13,601,000	44,214,000
1866	March 28	21,436 000	17,783,000	39,219,000	30,058,000	13,570,000	43,628,000
	June 27	24,588,000	22,198,000	46,786,000	37,384,000	13,571,000	50,955,000
	September 26	25,193,000	21,566,000	46,749,000	36,536,000	14,872,000	51,408,000
	December 26	23,728,000	22,740,000	46,468,000	33,110,000	17,478,000	50,588,000
1867	March 27	23,147.000	24,549,000	47,696,000	32,865,000	19,258,000	52,123,000
	June 26	23,538,000	24,896,000	48,434,000	32,319,000	20,117,000	52.436,000
	September 25	24,486,000	25,341,000	49,827,000	30,671,000	23,420,000	54.091,000
	December 24	24,706,000	23,850,000	48,556,000	29,960,000	22,561,000	52,521,000
1868	March 25	24,190,000	23,967,000	48,157.000	31,474,000	21,652,000	53,126,000
	June 24	24,503,000	24,474,000	48,977,000	32,460,000	21,238,000	53,698,000
	September 30	24,853,000	22,519,000	47,372,000	31,036,000	21,277,000	52,313,000
	December 30	24,336,000	22,409,000	46,745,000	33,935,000	18,981,000	52,916,000

Years.	Quarter ended.	Liabilities.			Assets.		
		Notes in Circulation.	Deposits.	Total.	Securities.	Bullion.	Total.
		£	£	£	£	£	£
1869	March 31	23,909,000	22,337,000	46,246,000	34,448,000	18,303,000	52,751,000
	June 30	23,834,000	21,827,000	45,661,000	34,133,000	17,718,000	51,851,000
	September 29	24,153,000	21,405,000	45,558,000	31,562,000	20,396,000	51,958,000
	December 29	23,910,000	21,305,000	45,215,000	32,373,000	18,827,000	51,200,000
1870	March 30	23,255,000	26,900,000	50,155,000	33,828,000	19,786,000	53,614,000
	June 29	23,576,000	26,303,000	49,879,000	32,530,000	20,460,000	52,990,000
	September 28	24,367,000	25,768,000	50,135,000	33,104,000	20,545,000	53,649,000
	December 28	24,539,000	24,196,000	48,735,000	29,513,000	22,311,000	51,824,000
1871	March	24,158,000	27,902,000	52,060,000	33,578,000	21,945,000	55,523,000
	June	24,705,000	28,762,000	53,467,000	32,391,000	24,192,000	56,583,000
	September	25,668,000	29,061,000	54,729,000	32,909,000	25,264,000	58,173,000
	December	25,625,000	28,010,000	53,635,000	33,827,000	22,952,000	56,779,000
1872	March	25,274,000	30,445,000	55,719,000	35,156,000	24,028,000	59,184,000
	June	25,880,000	29,446,000	55,326,000	36,561,000	21,978,000	58,539,000
	September	26,588,000	28,740,000	55,328,000	35,916,000	22,957,000	58,873,000
	December	25,983,000	26,645,000	52,628,000	34,468,000	21,379,000	55,847,000
1873	March	25,479,000	31,264,000	56,743,000	35,568,000	24,724,000	60,292,000
	June	26,169,000	31,503,000	57,672,000	39,156,000	21,744,000	60,900,000
	September	26,407,000	26,396,000	52,803,000	42,914,000	23,464,000	56,378,000
	December	26,219,000	25,079,000	51,298,000	33,633,000	20,869,000	54,502,000
1874	March	25,960,000	26,308,000	52,268,000	32,904,000	22,927,000	55,831,000
	June	26,628,000	26,753,000	53,381,000	34,154,000	22,376,000	56,530,000
	September	27,166,000	23,597,000	50,763,000	31,457,000	22,846,000	54,303,000
	December	26,877,000	23,740,000	50,617,000	32,679,000	21,028,000	53,707,000
1875	March	26,313,000	24,743,000	51,056,000	33,103,000	21,445,000	54,548,000
	June	27,461.000	25,574,000	53,035,000	33,796,000	22,346,000	56,142,000
	September	28,673,000	29,067,000	57,740,000	32,917,000	28,322,000	61,239,000
	December	28,356,000	26,267,000	54,623,000	34,134,000	23,579,000	57,713,000
1876	March	27,118,000	26,662,000	53,780,000	34,336,000	22,932,000	57,268,000
	June	27,917,000	28,610,000	56,527,000	32,513,000	27,120.000	59,633,000
	September	28,653,000	33,669,000	62,322,000	32,314,000	33,456,000	65,770,000
	December	28,565,000	33,042,000	61,608,000	33,440,000	31,272,000	64,712.000

THE BRITISH MUSEUM LIBRARY.—During the year 1876, 709,009 persons visited the British Museum. The number of readers was 109,442, giving an average of 376 daily; and each reader appears to have consulted, on an average, 13 volumes per diem. The average time occupied in supplying a book to a reader was 15 minutes. 35,561 volumes have been added to the library in the course of the year (including books of music and volumes of newspapers), of which 2,211 were presented, 9,069 received in pursuance of the laws of English copyright, 571 received under the international copyright treaties, and 23'710 acquired by purchase. 32,908 parts of volumes (or separate numbers of periodical publications, and of works in progress) have also been added, of which 1,581 were presented, 18,295 received in pursuance of the laws of English copyright, 592 received under the international copyright treaties, and 12,340 acquired by purchase.

FREE LIBRARIES.—A return, ordered by the House of Commons, shows the practical results of the Free Libraries Acts. In England and Wales, the corporate towns that have availed themselves of the provisions of these Acts by the establishment of lending libraries represent a population, according to the census of 1871, of upwards of 3,700,000 people; while reference libraries have been instituted for the use of upwards of 3,300,000. Other places not coming under the head of corporate towns, but representing in the aggregate about a quarter of a million of people, have set up lending libraries by virtue of these Acts, while 189,000 have adopted the reference library. Scotland does not appear to have availed itself very extensively of this legislation, populations representing only about 200,000 people having set up libraries of either kind.

ENDOWED CHARITIES OF ENGLAND AND WALES.—The return of the endowed charities of England and Wales has been obtained on the motion of Lord Robert Montagu. The Charity Commissioners have confined the figures to four tables, in which will be found for every county the items which make up the following amounts for the whole kingdom. The endowments are shown as arising from real and personal estate. The income from both is stated to be 2,198,464*l.*; the extent of the real estate is given as 524,311½ acres —which, within a trifle, is equal to the area of Cambridgeshire; rent thence derivable, 1,443,178*l.*; rent-charge and fixed annual payments, 115,073*l.*; this brings the income from realty up to 1,558,251*l.* Of the personalty, stock is returned as 17,418,251*l.*; other descriptions of personalty, 2,197,478*l.*,—the income from both these sources being 640,213*l.* The objects of foundation or purposes to which the aggregate income is applicable are these: Education. 646,882*l.*: apprenticing and advancement, 87,865*l.*; endowments of clergy, lecturers, and for sermons, 90,844*l.*; Church purposes, 112,895*l.*; maintenance of dissenting places of worship and their ministers, 38,832*l.*; education of Dissenters, 19,981*l.*; public uses, 66,875*l.*; support of almshouses, their inmates and pensioners, 552,119*l.*; distribution of articles in kind, 124,111*l.*; distribution of money, 176,891*l.*; general uses of the poor, 64,818*l.*; and medical charities, 199,140*l.* This exhausts 2,198,464*l.* The income of the endowed charities, according to the commission of inquiry (1819–1837), was 1,119,223*l.*; but according to the general digest (1867–1876) the amount was 2,198,454*l.*—this discloses an increase of nearly 1,000,000*l.* sterling. This increase arose thus:—248,240*l.* derived from charities founded previous to 1819–1837, but not included in the reports of the Commission of Inquiry; derived from charities founded since, "by deed," 111,033*l.*; "by will," 115,919*l.*; and improved income of report endowments, 524,039*l.* The extent of the labours which were undertaken and accomplished by the Charity Commissions in the earlier part of the present century was enormous. During the nineteen years 1818–1837 there were four separate commissions, who together made thirty-two reports, occupying thirty-eight folio volumes. The number of charities reported on was 28,880, with a total yearly income, which was returned at the sum of 1,209,395*l.* These endowed charities embrace many purposes besides the relief of poverty, which in the popular sense is attached to the word charity. A judicial definition of "charity" describes it as "a general public use, which extends to the poor as well as the rich." The purposes set out by the 43rd Elizabeth, cap. 4, include, among a variety of objects which in ordinary parlance would be called charitable, the "repair of bridges, ports, havens, causeways, churches, sea banks, and highways;" "for or towards relief, stock, or maintenance for houses of correction."

CERTIFIED PLACES OF WORSHIP.—The Registrar-General in his last Report (for 1875) states that the number of buildings certified for religious worship during the year 1875 not being churches or chapels of the Established Church was 534. The number on the register on 31st December, 1875, was 20,480. The following is a list of the various titles by which religious denominations have been certified to the Registrar-General. The names printed in *italics* have been added since the publication of the list in the Report for 1874.—

Advents, Apostolics, Arminian New Society; Baptists, different sects of; viz.:

Baptists, Calvinistic Baptists, General Baptist, General Baptist New Connexion, Old Baptists, Particular Baptists, Presbyterian Baptist, Scotch Baptists, Seventh Day Baptists, Strict Baptists, Union Baptists, Unitarian Baptists; Baptized Believers, Believers in Christ, Bible Christians, Bible Defence Association, Brethren; Calvinists, Catholic and Apostolic Church, Christadelphians, Christians who object to be otherwise designated, Christian Believers, Christian Brethren, Christian Eliasites, Christian Israelites, Christian Mission, Christian Teetotallers, Christian Temperance Men, Christian Unionists, Church of Christ, Church of Scotland, Church of Progress, Church of the People, Countess of Huntingdon's Connexion; Disciples of Christ, Disciples of Jesus Christ; Eastern Orthodox Greek Church, Eclectics, Episcopalian Dissenters, Evangelical Unionists; Followers of the Lord Jesus Christ, Free Catholic Christian Church, Free Christian Association, Free Christians, Free Church, Free Church (Episcopal), Free Church of England, Free Gospel and Christian Brethren, Free Gospel Church, Free Grace Gospel Christians, Free Union Church; German Lutheran, German Roman Catholic, Glassites, Glory Band, Greek Catholic; *Halifax Psychological Society*, Hallelujah Band, Hope Mission, Humanitarians; Independent Religious Reformers, Independents, Independent Unionists, Inghamites, Israelites; Jews; Latter Day Saints; Moravians, Mormons; New Church, New Jerusalem Church; Orthodox Eastern Church; Peculiar People, Plymouth Brethren, *Polish Society*, Presbyterian Church in England, Primitive Christians, Progressionists, Protestant Members of the Church of England, Protestants adhering to Articles of Church of England, 1 to 18 inclusive, but rejecting Order and Ritual, Protestant Union, Providence; Quakers; Ranters, Recreative Religionists, Reformed Church of England, Reformed Presbyterians or Covenanters, Reformers, Revival Band, Revivalists, Roman Catholics; Salem Society, Sandemanians, Second Advent Brethren, Separatists (Protestant), Society of the New Church, Spiritual Church, Swedenborgians; *Temperance Church*, Testimony Congregational Church, Trinitarians, Unionists, Unitarian Christian, Unitarians, United Brethren or Moravians, United Christian Church, United Presbyterians; Welsh Free Presbyterians, Wesleyan Methodists, viz.: Modern Methodists, New Connexion Wesleyans, Original Connexion of Wesleyans, Primitive Methodists, Reform Free Church of Wesleyan Methodists, Refuge Methodists, Temperance Methodists, United Free Methodist Church, Welsh Calvinistic Methodists, Wesleyan Methodist Association, Wesleyan Reformers, Wesleyan Reform Glory Band, Wesleyans, Working Man's Evangelistic Mission Chapels.

THE PEABODY FUND.—The trustees of the Peabody Donation Fund have submitted their report for the year ending December 31, 1876. It states that the estate at Stockwell has been sold, realising a profit of 10,275*l.* 7*s.* 9*d.*, the situation having been found inconvenient for the purposes contemplated by the trust. The amount of the fund at the close of the year 1875 was 612,053*l.* 16*s.* 4*d.*, as stated in the last report. To this sum has been added 20,987*l.* 15*s.* 10*d.*, the net income of the past year and also the gain upon the sale of the Stockwell property, so that the total amount of the two trusts on the 31st of December last was 643,316*l.* 19*s.* 11*d.* The trustees have spent during the year the sum of 27,428*l.* 6*s.* 8*d.* in the purchase of land and in the erection of buildings; the amount of unexpended capital at the end of the year was 166,511*l.* 8*s.* 5*d.* Twelve blocks of buildings near Ebury-bridge, Pimlico, containing 198 separate dwellings, were completed and opened in the month of August last. The applications for rooms in these buildings were so numerous that the trustees immediately decided upon building fourteen more blocks of the same size, which will afford accommodation for 272 families. The trustees having acquired the leasehold interest upon their freehold land in James-street, Westminster, adjoining Peabody-square, have just entered into a contract for the erection of two additional blocks thereon to accommodate forty-seven families. When the buildings now in course of construction, to be completed during the present year, are finished, the trustees will have provided dwellings for 2,165 families. The average weekly wages of the head of each family in residence at the close of the past year were 1*l.* 4*s.* 4¼*d.*, varying from 1*l.* 2*s.* 2*d.* at Shadwell, to 1*l.* 5*s.* 10*d.* at Southwark-street. The average rent of each tenement is 4*s.* 3*d.* per week, which includes the free use of sculleries, laundries, and bath-rooms.

BANKRUPTCIES IN 1876.—It is shown by the report for 1876 of the Comptroller in Bankruptcy, just issued, that the number of cases administered under the Bankruptcy Act of 1869 has been 17,488—1,360 more than in 1875. Liquidations and compositions have increased from 3,651 in 1870 to 8,273 in 1876, and the adjudications of bankruptcy have decreased in the same period from 1,351 to 976. The average cost of administration in bankruptcies closed in 1876 was about 28 per cent. of the assets. The assets of 192 small estates were absorbed by the expenses, on which the law charges amounted to about 60 per cent. The Comptroller says that in the year about 100,000*l.* would probably have been saved to creditors if the bills of receivers, auctioneers, and other agents had been properly taxed.

AVERAGE GAZETTE PRICES OF BRITISH WHEAT,

MONTHS.	1862.	1863.	1864.	1865.	1866.	1867.	1868.
	WHEAT						
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
January ..	61 4	47 4	40 6	38 6	45 10	61 4	70 3
February ..	59 11	46 11	40 7	38 3	45 6	60 10	73 0
March ..	59 2	45 5	39 11	38 4	45 3	59 9	73 0
April	57 11	45 7	39 9	39 6	44 10	61 6	73 3
May	57 5	46 4	39 3	41 0	46 2	64 8	73 9
June	54 5	46 8	39 8	41 5	48 3	65 4	67 11
July	57 0	46 6	42 4	42 7	54 1	65 0	65 5
August ..	57 9	46. 0	43 1	43 3	50 6	67 8	57 7
September ..	55 6	44 2	41 10	44 0	48 11	62 8	54 7
October ..	49 5	40 8	38 9	41 10	52 4	66 6	53 8
November ..	48 8	40 0	38 9	45 7	56 6	69 5	51 8
December ..	46 4	40 10	38 1	46 7	60 3	67 4	49 11
The Year ..	55 5	44 9	40 2	41 10	49 11	64 5	63 9
	BARLEY						
Januury ..	36 9	35 0	31 11	28 5	32 9	44 3	41 10
February ..	36 4	36 3	31 11	29 1	33 8	44 4	42 6
March	35 10	36 7	31 3	28 10	35 11	41 0	43 3
April	36 6	35 8	30 10	29 7	36 10	39 6	43 11
May	36 7	34 1	29 7	29 6	36 3	38 10	43 8
June	33 3	31 6	28 2	28 1	35 1	36 2	40 3
July	31 11	30 0	27 6	27 11	34 5	35 2	37 5
August ..	32 11	31 9	28 6	28 3	34 1	37 3	41 1
September ..	36 5	35 0	31 8	30 8	37 2	39 11	43 8
October ..	34 8	34 4	30 3	30 9	42 0	41 3	45 6
November ..	35 8	33 11	29 10	32 10	44 10	42 2	46 10
December ..	34 6	32 8	28 5	33 0	45 2	40 11	45 10
The Year ..	35 1	33 11	29 11	29 9	37 5	40 0	43 0
	OATS						
January ..	21 11	20 6	18 9	19 2	23 0	24 0	25 7
February ..	22 0	21 4	19 2	19 7	23 4	24 3	26 1
March ..	22 0	21 5	19 5	20 9	23 10	24 7	27 1
April	21 5	21 6	19 3	22 0	24 5	24 9	28 0
May	23 0	22 1	19 8	23 1	25 1	26 0	28 10
June	23 6	22 10	20 2	23 2	25 11	27 5	29 10
July	24 3	23 2	21 6	23 1	27 1	28 0	30 4
August ..	25 2	23 0	22 5	23 10	26 2	28 8	29 9
September ..	24 0	21 1	21 6	21 8	24 8	26 11	28 0
October ..	21 8	19 0	20 1	20 10	22 11	25 8	27 8
November ..	21 3	19 2	19 10	22 3	23 6	25 11	28 0
December ..	20 6	19 2	19 6	22 10	24 10	25 2	27 8
The Year ..	22 8	21 2	20 1	21 10	24 7	26 0	28 1

BARLEY, and OATS, per IMPERIAL QUARTER in EACH MONTH.

1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.
.. ..	WHEAT.						
s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d*	*s. d.*	*s. d.*	*s. d.*
51 9	43 8	52 8	55 4	55 9	62 7	44 1	44 9
50 4	41 3	53 6	55 8	56 4	62 11	41 8	43 1
48 1	41 5	54 1	55 1	55 6	60 11	41 6	43 0
46 4	42 7	57 8	54 2	54 10	60 0	43 0	44 11
44 9	44 6	59 0	56 3	56 0	62 2	42 3	45 1
45 11	47 5	59 9	58 11	58 7	61 0	42 3	47 5
49 10	50 10	58 8	58 6	59 6	60 8	46 5	48 3
52 8	53 10	57 10	59 8	60 6	57 6	52 10	46 0
50 8	47 3	57 0	58 4	64 2	47 7	48 4	46 8
47 4	47 0	56 5	58 6	60 10	44 6	46 4	46 6
46 6	50 1	56 2	56 10	60 9	43 9	47 2	47 11
43 9	52 4	56 2	56 6	61 8	44 9	46 3	49 9
48 2	46 10	56 8	57 0	58 8	55 8	45 2	46 2
.. ..	BARLEY.						
48 6	35 11	35 3	37 1	40 1	45 8	44 11	34 5
47 2	34 5	35 7	38 6	40 4	48 11	43 10	33 5
45 0	34 0	35 11	37 4	39 10	48 4	42 0	32 8
44 1	34 7	36 8	36 3	39 1	48 11	40 10	33 10
39 5	33 3	37 2	36 2	38 4	46 11	38 5	34 1
34 9	32 8	37 0	34 7	37 2	42 9	35 10	32 11
31 11	31 7	35 3	32 5	36 6	40 9	34 6	32 9
32 4	33 8	35 2	33 2	37 7	44 6	35 0	32 2
37 6	36 1	35 5	37 4	43 11	42 10	35 5	37 8
38 1	36 7	36 6	42 1	43 9	42 8	37 0	39 4
38 5	36 7	37 0	42 8	44 0	42 7	37 11	39 3
36 3	35 4	36 10	41 6	44 9	44 2	35 4	38 9
39 5	34 7	36 2	37 5	40 5	44 11	38 5	35 2
.. ..	OATS.						
26 6	20 8	22 11	22 6	22 2	26 11	29 5	24 2
27 10	20 2	23 11	22 9	21 11	28 7	29 8	24 5
27 7	20 11	25 2	22 8	23 3	28 7	29 11	25 1
26 10	21 2	27 0	22 3	23 10	28 5	29 10	25 8
26 11	23 0	27 2	23 5	25 4	29 7	30 3	26 7
27 4	23 9	27 0	23 4	26 7	30 4	31 6	28 1
26 10	26 1	27 6	24 4	28 9	30 4	30 1	29 10
27 2	26 9	26 11	25 1	28 7	30 10	30 8	29 0
25 10	23 5	24 10	23 0	27 7	28 1	28 3	26 7
24 1	22 3	23 2	22 11	25 3	27 7	24 10	25 3
23 4	23 5	23 5	22 9	25 4	28 0	25 6	25 7
22 2	23 4	23 0	22 10	26 1	29 1	24 6	25 1
26 0	22 11	25 2	23 2	25 5	28 10	28 8	26 3

CHRONICLE OF EVENTS AND OCCURRENCES.

Home and Foreign.

From November, 1876, to November, 1877.

1876.

Nov. 18. The Turkish Great Council agreed to accept the Conference of the Powers on the Eastern Question.

20. Lord Salisbury left London to attend the Conference at Constantinople.

30. Third London School Board elected; 31 members in favour of the continuance of the Board's policy, and 11 opposed to it.

—. Archdeacon Johnson consecrated Bishop of Calcutta.

Dec. 2. The Rev. Arthur Tooth, vicar of Hatcham, suspended for three months, for disobedience to the monition of the Judge of the Arches Court, under the Public Worship Regulation Act.

5. Great fire at the Brooklyn Theatre, New York; upwards of 300 persons burnt.

6. The Duke of Abercorn retired from the office of Lord-Lieutenant of Ireland.

11. First meeting of the Plenipotentiaries to the Conference at Constantinople.

12. M. Jules Simon appointed Vice-President of the French Cabinet and Minister of the Interior.

—. The Duke of Marlborough sworn in at Dublin as Lord-Lieutenant.

15. The Bishopric of Truro founded by order published in the *London Gazette*.

19. Midhat Pasha appointed Grand Vizier of Turkey.

23. Conference at Constantinople on the Eastern Question.

—. The New Turkish Constitution promulgated.

26. Lord Salisbury laid the proposals of the Conference before the Porte.

28. The Conference at Constantinople agreed to prolong the armistice unto 1st March, 1877.

29. Fatal disaster on the Pacific Railway, United States; upwards of 100 persons killed, the train falling through a high trestle bridge into a creek.

31. Disturbances at St. James's, Hatcham, owing to the refusal of Mr. Tooth to discontinue his ministrations, in accordance with the order of the Judge of the Arches Court.

1877.

Jan. 1. Proclamation of the Queen as Empress of India, by the Viceroy at Delhi. New Order of the Empire of India instituted.

-. The Emperor of Germany celebrated the 70th anniversary of his entry in the army.

2. High tide in the Thames.

4. Committee appointed to inquire into the causes of the outbreak of scurvy in the Arctic Expedition.

7. Renewed riots at St. James's, Hatcham.

14. The Marquis of Salisbury received at an interview with the Sultan.

—. St. James's, Hatcham, closed by the Bishop's order.

15. The Conference adopted their final proposals to the Porte.

18. Turkish Grand Council rejected the proposals of the Conference.

20. Final sitting of the Conference at Constantinople, when the

Turkish delegates presented counter proposals on the points of the Commission of Control and the settlement with Servia and Montenegro. The appointment of provisional governors was "passed over in silence." This being so, the Marquis of Salisbury declared that "no common basis of discussion" remained, and the Conference must therefore be regarded as at an end. General Ignatieff concurred, and "laid stress upon the responsibility resting upon the Porte."

Jan. 21. The church of St. James's, Hatcham, closed by order of the Rev. R. Chambers, curate in charge.

22. Mr. Tooth, the suspended vicar of St. James's, Hatcham, arrested and lodged in Horsemonger Lane Gaol.

23. Commencement of the hearing of the appeal in the Folkestone Ritual case (Ridsdale *v.* Clifton and others), before the Judicial Committee of the Privy Council:—Present, the Lord President of the Council, the Lord Chancellor, Lord Selborne, Lord Justice James, the Lord Chief Baron, Lord Justice Brett, Sir James Colvile, Sir Robert Phillimore, Sir Montague Smith, Sir Robert Collier, and Lord Justice Amphlett, with, as Assessors, the Archbishop of Canterbury, the Bishops of Chichester, St. Asaph, and St. David's. Sir James Stephen, Q.C., Mr. Arthur Charles, Mr. Francis H. Jeune, and Dr. Walter Phillimore were counsel for the appellant (Mr. Ridsdale); Dr. Stephens, Q.C., and Mr. Benjamin Shaw for the respondents.

—. Fatal colliery accident at Farnworth, near Bolton.

25. Memorial statue of Burns unveiled at Glasgow, in the presence of 100,000 persons.

29. Conviction of Dr. Slade quashed, on technical grounds, by the Middlesex magistrates.

Feb. 5. Midhat Pasha removed from the office of Grand Vizier, and succeeded by Edhem Pasha. Circular note issued by the Porte to the Great Powers represented at the Conference, contesting the right of the Powers to interfere between the Porte and its subjects on internal affairs.

6. Conviction of "Dr. Monck," the Huddersfield Spiritualist, affirmed by Barons Cleasby and Pollock.

8. Parliament opened by the Queen. The Earl of Beaconsfield took his seat in the House of Lords.

12. The Sunday Closing (Ireland) Bill read a second time in the House of Commons, by 194 to 23.

13. Professor Fawcett's proposal for a Committee on Indian Finance negatived, in the House of Commons, by 173 to 123.

15. The Prisons Bill read a second time, in the House of Commons, by 279 to 69.

19. The Universities Bill read a second time in the House of Commons.

23. Sergeants' Inn sold to Sergeant Cox for 57,000*l.*

25. Renewed disturbances at Hatcham Church.

28. The Servian Parliament sanctioned the terms of peace with Turkey.

—. Senate of London University resolved to admit ladies to degrees in medicine.

March 1. Documents for the conclusion of peace between Turkey and Servia signed at Constantinople.

2. Mr. Hayes declared to be elected President, and Mr. Wheeler Vice-President, of the United States, by 185 to 184 votes.

—. Sir Hardinge S. Giffard, Solicitor-General, elected M.P. for Launceston.

March 2. Election of Deputies to the new Ottoman Parliament.
13. The Government Burials Bill introduced in the Lords.
14. Cleopatra's needle presented to the British Government by the Khédive.
19. Opening of the first Turkish Parliament by the Sultan.
29. The Government appointed Mr. Layard to act as British Ambassador at Constantinople during Sir H. Elliot's absence.
31. Protocol on Turkish affairs signed at the Foreign Office, London.

April 4. Protocol presented to the Porte.
5. Prosecution of Charles Bradlaugh and Annie Besant for publishing "The Fruits of Philosophy."
—. Sir Bartle Frere performed his first public act as Governor of Cape Colony by opening the South African Exhibition.
10. The Porte refused to accept the Protocol.
18. The mobilization of the entire Russian army decided upon.
20. The Czar left St. Petersburgh for Kischeneff.
—. Release of the entombed miners.
24. Lord Derby announced in the Lords that the Russian army had crossed the frontier.
—. Mr. Shaw's motion in favour of Irish Home Rule rejected in the Commons by 417 to 67.
—. Russia declared war against Turkey.
25. Dr. Benson consecrated Bishop of Truro at St. Paul's.
26. Second reading of the Government Burials Bill carried in the Lords by 141 to 102.
27. First engagement between the Russians and Turks.
28. Plague at Bagdad; 254 fatal cases since the 21st.
30. The Queen's proclamation of neutrality in the war published in the Gazette.

May 2. Mr. Holt's Anti-vivisection Bill rejected in the Commons by 222 to 83.
—. Mr. Osborne Morgan withdrew his Burials Bill pending the decision on the Government measure.
7. Mr. Gladstone introduced his "Resolutions" on the Eastern Question in the House of Commons.
14. The first of Mr. Gladstone's "Resolutions" on the Eastern Question rejected in the House of Commons by 354 to 223.
15. M. Jules Simon dismissed from his office as President of the French Cabinet.
17. New Ministry at Paris, with the Duc de Broglie as President of the Council.
18. Marshal MacMahon prorogued the Chamber for a month.
21. The independence of Roumania voted by the Chamber of Deputies.
23. Don Carlos expelled from France at the desire of the Spanish Government.
25. Bombardment of Kars commenced, and engagement between Turkish ironclads and the Russian batteries on the Danube.
31. Principal Shairp elected Professor of Poetry at Oxford.

June 2. Special service at Westminster Abbey in connection with the Caxton celebration.
4. The Universities Bill passed through Committee in the Commons.
—. Sir J. Bennett elected Alderman for the Ward of Cheap, in the City of London.
6. The Women's Disabilities Bill discussed in the House of Commons, and "talked out."
—. Breaking of bridge at Bath, 150 persons thrown into the Avon, eight killed.

June 8. Mr. P. Taylor's motion for the opening of museums and art galleries on Sunday rejected in the Commons, by 229 to 87.
—. Louis, Patrick, and Elizabeth Staunton, and Alice Rhodes, committed for trial at Penge for the murder of Harriet Staunton.
12. Resolution in favour of the abolition of capital punishment rejected in the Commons, by 155 to 50.
15. The Admiralty Board expressed its regret to Sir G. Nares that he did not observe the directions of the Medical Director-General for prevention of scurvy in the Arctic Expedition.
18. Lord Harrowby's amendment on the Government Burials Bill carried by 127 to 111; declaration of 12,000 clergy against the Bill published.
19. Prisons Bill read a third time in the Commons.
—. Vote of Want of Confidence in the Government by the French Chamber.
21. The Government Burials Bill withdrawn.
—. H. Bradlaugh and A. Besant adjudged to be guilty of publishing an indecent book; sentence deferred.
22. The French Senate resolved on a dissolution by 150 to 130.
27. The Russian troops crossed the Danube.
July 9. The South African Bill read a second time in the Commons by 81 to 19.
11. Mr. McLaren's Bill for the Abolition of Church Rates in Scotland rejected by 204 to 143.
—. Russians abandoned the Siege of Kars.
—. Standing Committee of London University sanctioned the admission of women to medical degrees.
12. Bank rate reduced to 2 per cent.
—. J. Meiklejohn, N. Druscovich, and W. Palmer, Chief Inspectors of the Detective Police, charged with conspiracy to defeat the ends of justice in connection with the great Turf Frauds.
13. Lord Granville's amendment to the Universities Bill for the abolition of religious tests on admission to office, rejected by 103 to 69.
16. Illness of Prince Albert Victor from typhoid fever announced.
17. Queen's Prize at the Wimbledon Rifle Meeting won by Private Jamieson of the 15th Lancashire Corps.
19. Mehemet Ali Pasha appointed Commander-in-Chief of the Turkish Army, vice Abdul Kerim Pasha.
25. Obstruction of business in the House of Commons by seven Irish members; Mr. Parnell ordered to withdraw.
26. Mr. Butt's Irish University Bill rejected in the Commons by 200 to 55.
—. Riots of railway employés in America.
27. The Court of Aldermen of London refused to receive Sir John Bennett, elected for the Ward of Cheap.
28. Special sitting of the House of Commons to meet the delay caused by the obstruction of the Irish members.
31. House of Commons sat for 26 hours.
Aug. 7. Mr. W. H. Smith appointed First Lord of the Admiralty; vice Mr. Ward Hunt.
9. Mr. Whalley suspended from taking part in a debate in the Commons under the rules passed to prevent obstruction.
14. Parliament prorogued.
15. Indian Famine Relief Fund opened at the Mansion House.
23. Great battle in the Shipka Pass.
—. Total eclipse of the moon visible in London.
28. Bank rate raised to 3 per cent.
31. Strike of 10,000 colliery operatives at Bolton.

Sept. 11. M. Gambetta sentenced to three months' imprisonment and fined.
13. Opening of the New Town Hall at Manchester; speech by Mr. Bright.
21. The vessel conveying Cleopatra's Needle left Egypt for England.
22. The Detective Officers with Mr. Froggatt committed for trial on the charge of conspiracy to defeat the ends of justice in the Turf Frauds case.

Oct. 3. Sir John Bennett elected for the third time Alderman of London.
4. Bank rate raised to 4 per cent.
9. The 17th Church Congress opened at Croydon.
11. Bank rate advanced to 5 per cent.
14. Elections in France.
22. Colliery accident at Blantyre, N.B.; upwards of 200 lives lost.
—. The Oxford University Commissioners commenced their sittings.
23. Dr. Baxter Langley and William Swindlehurst sentenced to 18 months hard labour, and Edward Saffery to 12 months, for frauds on the Artisans' Dwelling Company.
30. The sentence on Louis, Patrick, and Elizabeth Staunton commuted to penal servitude for life, and Alice Rhodes granted a free pardon.

Nov. 2. The Hon. A. H. Thesiger, Q.C., gazetted as a Lord Justice of Appeal.
5. The Mansion House Indian Famine Relief Committee resolved to close the fund.
-. Lord Hartington received the freedom of the City of Glasgow.
8. Mr. Gladstone received the freedom of the City of Dublin.
9. Alderman Owden entered on his year of office as Lord Mayor of London.

NECROLOGICAL TABLE

OF DISTINGUISHED AND NOTABLE PERSONS WHO DIED BETWEEN NOVEMBER, 1876, AND NOVEMBER, 1877.

1876.		Age
Nov.	8. PHILLIPS, Henry, vocalist and composer; at Dalston	76
	—. BARLOW, Henry Clark, M.D., F.G.S., author of works on Dante; at Salzburg	60
	9. RITSCHE, Frederick, philologist; at Leipzig	70
	20. GRESLEY, Rev. William, vicar of Boyn Hill and Prebendary of Lichfield; author of theological works; at Boyn Hill	75
	—. BELL, Sir John, G.C.B., the oldest General in the British Army; at Cadogan Place	94
	—. DE LA PENA, Narcisse-Virgile Diaz, landscape painter; at Bordeaux	67
	21. HAYS, John Wetherell, Clerk of the Crown for the County Palatine of Durham from 1815 to 1876; at Durham	88
	—. SALDANHA, Duc de, Field Marshal, Portuguese Minister at St. James's; in London	86
	—. MOORE, George, merchant and philanthropist; at Carlisle	69
	24. WEIR, Rev. Duncan Harkness, D.D., Professor of Oriental Languages in Glasgow University and member of the Old Testament Revision Company; at Southport	54
	25. WHITESIDE, Rt. Hon. James, Lord Chief Justice of Ireland; at Brighton	72
	26. ARMITAGE, Sir Elkanah, cotton manufacturer, knighted for his services when mayor of Manchester during the Chartist outbreak; at Manchester	82
	28. HOSKYNS, Chandos Wren, late M.P. for Hereford and Deputy-Lieutenant; at Eccleston Square	64
	29. LAND, Edward, vocalist and composer; at Cambridge Place, Regent's Park	61
	30. DAWSON, George, M.A., lecturer, sometime editor of the *Birmingham Morning News*; at King's Norton	55
	—. HORSMAN, Rt. Hon. Edward, M.P. for Liskeard, Chief Secretary for Ireland, 1855-57; at Biarritz	69
Dec.	1. HOPE, George, agriculturist; at Bordlands, N.B.	65
	2. KOCHLY, Hermann, philologist; at Trieste	63
	9. TEULON, Seymour, Treasurer and Vice-President of the Society of Arts; at Limpsfield	73
	—. ESMONDE, Sir John, Bart., M.P. for Waterford, 1852-76; at Gorey, Wexford	50
	12. CAMPBELL, Very Rev. Peter Colin, D.D, Principal of the University of Aberdeen; at Old Aberdeen	66
	13. TURNER, Sir Charles Robert, Master of Court of Queen's Bench, 1840-76; at Chester Terrace	87
	14. ANDERSON, G. F., pianist, treasurer of the Royal Society of Musicians, and master of the music and conductor of the Royal Private Band under George IV, William IV, and Queen Victoria; at Nottingham Place	83
	15. DE LARA, Laurent, F.S.A., artist; at Torrington Square	70
	17. BURTT, Joseph, assistant keeper of Public Records; archæologist; at Tulse Hill	58
	18. BESLEY, Robert, Alderman of the City of London; at Wimbledon	82

		Age
Dec.	21. MONTANDON, M., Leader of the Liberal Party with French Reformed Church; at Paris	74
	—. BOOTH, Sir R. Gore, Bart., M.P. for Sligo; Chairman of the Musical Union; at Sligo	70
	27. PALUDAN-MULLER, Frederick, poet; in Denmark	68
	29. SALT, Sir Titus, Bart., manufacturer; at Halifax	73
	—. SMITH, Rev. Barnard, M.A.; at Glaston	59
	30. WINTHER, Christian, Danish poet; at Paris	80
	31. HUGO, Rev. Thomas, M.A., F.S.A., rector of West Hackney; antiquarian and author; at West Hackney	
1877.		
Jan.	2. TRITTON, Henry, banker; at Beddington	61
	3. MONNIER, Henri, novelist, dramatist, and artist; at Paris	77
	5. COBBOLD, Rev. Richard, auther of "Margaret Catchpole," &c.; for more than 50 years rector of Wortham; at Wortham	79
	-. LANDELLS, Robert, artist (of the *Illustrated London News*); at Chelsea	43
	-. WESLEY, Sir Samuel Robert, K.C.B., Royal Marines; at Blackheath	
	-. VON NEFF, Timoleon Carl, painter; at St. Petersburgh	72
	11. PAGE, Thomas, C.E., acting engineer of the Thames Tunnel and designer of the New Westminster Bridge; at Paris	73
	—. SMEE, Alfred, F.R.S., surgeon to the Bank of England, inventor of the present mode of printing bank notes, &c.; at Finsbury Circus	58
	12. GAYER, Arthur Edward, Q.C., LL.D., late Ecclesiastical Commissioner for Ireland, and Chancellor and Vicar-General of the dioceses of Meath, Ossory, and Cashel; at Norwood	75
	—. HOBBS, William, vocalist, Gentleman of the Chapel Royal, etc.; at Croydon	77
	18. SULLIVAN, Frederick, actor; at Fulham	39
	20. PULLEN, Rev. Joseph, B.D., Professor of Astronomy at Gresham College; at Cambridge	79
	25. EARLE, Sir Hardman, Bart., the oldest Railway Director in England, and one of the Original Promoters of the Liverpool and Manchester Line; at Allerton	84
	28. ERLE, Right Hon. Peter, Q.C., Chief Charity Commissioner, 1840–72; at Park Crescent, Regent's Park	72
Feb.	3. SMITH, Lady Pleasance, widow of Sir J. E. Smith, Founder of the Linnean Society; at Lowestoft	103
	8. CLIFFORD, Sir Augustus, "Black Rod," 1832—1877; at Westminster	88
	10. FERGUSSON, Sir William, Bart., F.R.S., Surgeon; at George Street, Hanover Square	68
	12. BAKER, Rev. Sir Henry Williams, Bart., chief editor of Hymns Ancient and Modern; at Leominster	66
	13. COBBETT, John Morgan, M.P. for Oldham 1852—65, aad 72—77; at Brompton Crescent	76
	14. CHANGARNIER, General; at Paris	83
	—. HAMILTON, Sir William, R.N., for more than 50 years British Consul at Boulogne; at Boulogne	88
	21. OXENFORD, John, dramatic author and critic to the *Times*; at Southwark	64
	26. FORDYCE, Sir John, K.C.B., Colonel Commandant, R.A.; at Earl's Colne	70
March	1. GOSSET, Henry, Admiral, served in the Navy from 1809; at Old Quebec Street	82

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March 1.	DALE, James Murray, ecclesiastical lawyer; at Aldborough	54
4.	ODGER, George, Secretary of the London Trades Council, and promoter of the Reform League; at St. Giles's	56
5.	OTTO, Julius, composer of choral works; at Dresden	73
7.	JACOBY, Dr., Johann, physician, a Jew and a Spinozist; at Konigsberg	72
9.	BOWERBANK, John Scott, LL.D., F.R.S., naturalist; at Hastings	80
10.	MACKAY, Alex. Eugene, M.D., Deputy Inspector-General Royal Navy; at Priory Road, Kilburn	55
13.	CLARKE, Charles Cowden, author, the tutor of Keates; at Geneva	89
18.	BELCHER, Admiral Sir Edward, K.C.B., Arctic explorer and traveller; at Dorset Square	78
21.	SUTHER, Patrick, M.D., Senior Medical Officer of the Royal Navy, and last survivor of 98 surgeons and assistant-surgeons who served under Nelson and Collingwood at Trafalgar; at Southsea	
24.	BAGEHOT, Walter, proprietor and editor of the *Economist*; at Langport	51
—.	FITZGERALD, Field-Marshal Sir J. F., G.C.B., served in the English army 84 years; at Tours	95
27.	LYSONS, Rev. Samuel, M.A., Hon. Canon of Gloucester, and Historian of the Three Choirs' Festivals; at Gloucester	71
29.	MICHELL, Rev. Richard, D.D., Principal of Hertford College and Public Orator of the University; at Oxford	72
30.	DUNDAS, Right Hon. Sir, Solicitor-General 1846-48, and Judge Advocate-General 1849-52; at the Temple	78
—.	NEATE, Charles, composer and pianist, one of the founders of the Philharmonic Society in 1813; at Brighton	93
31.	TOPHAM, Frank, water-colour painter; at Cordova	69
April 4.	MADOW, painter; at Brussels	81
8.	SHAW, Benjamin, barrister, counsel in ecclesiastical cases; at Cambridge Square, Hyde Park	58
10.	HALLIDAY, Andrew, journalist and dramatic author; at	47
11.	WINANS, Ross, engineer and part inventor of the cigar-shaped steamer; at Callemore, U.S.A.	80
21.	CASONI, Varnnicelli, Cardinal, one of the remaining seven Cardinals created before Pius IX commenced his reign; at Rome	77
23.	WILLIAMS, Very Rev. Thomas, Dean of Llandaff; at Llandaff	75
May 5.	COULSON, William, Surgeon, Hunterian Orator, 1860; at Chester Terrace	77
6.	RUNEBERG, Johan Ludvig, Scandinavian poet; at Helsingfors	73
8.	SHARPE, Edmund, M.A., F.R.I.B.A., architect; at Milan	67
10.	SHREWSBURY AND TALBOT, Earl of, Captain of the Corps of Gentlemen-at-Arms; at Dover Street	47
20.	ARNOLD, T. J., F.R.S., Senior Metropolitan Police Magistrate; at Kilburn	73
21.	WYATT, Sir Digby, architect; at Cowbridge	57
22.	ALLEN, Wm. Ferneley, Alderman of London; at Waterloo Place	60
24.	CABRERA, Ramon, Marshal, Count de Morella, Carlist General in the Civil War in Spain, 1833-40; at Staines	66

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May	24.	CARPENTER, Dr. Philip P., conchologist; at Montreal.	57
	26.	KAY-SHUTTLEWORTH, Sir James Phillips, Bart., formerly Secretary to the Committee of Council on Education; at Cromwell Road	73
	28.	WEEKES, Henry, R.A., sculptor; at Buckingham Palace Road	70
	29.	MOTLEY, John L., historian and United States Minister in London in 1869-70; at Kingston Russell, Dorset	63
June	4.	FROST, William Edward, R.A., painter	67
	9.	CHRISTOPHER-NISBET-HAMILTON, Rt. Hon. Robert Adam, M.P. for North Lincolnshire 1837-57, and Chancellor of the Duchy of Lancaster in 1852; at Chesham Place	73
	10.	THOLUCK, Dr. August, Orientalist; at Hallé.	78
	12.	DANA, Professor L. K., Norwegian Historian; at Christiania	67
	13.	LUDWIG III, reigning Grand-Duke of Hesse; at Darmstadt	71
	14.	JAMES, Sir Henry, late Director-General of the Ordnance Survey of Great Britain; at Southampton	74
	15.	MELLISH, Sir George, Lord Justice of the Court of Appeal in Chancery; at Lowndes Square	63
	—.	STIRLING-MAXWELL, Lady (Caroline Sheridan), novelist; at Upper Grosvenor Street	69
	—.	CARPENTER, Miss Mary, philanthropist, promoter of ragged and industrial schools and of normal schools in India; at Bristol	70
	19.	ROUS, Admiral, formerly a Lord of the Admiralty, author of "The Laws and Practice of Horse Racing;" at Berkeley Square	82
	20.	ALLEN, Rev. Hugh, D.D., Rector of St. George's, Southwark; at New Kent Road	70
	24.	CANTERBURY, Viscount, K.C.M.G., K.C.B., M.P. for Cambridge 1839-40 and 1841-7, Governor of Victoria 1866-72; at Queensberry Place	63
	26.	SANTINI, Professor, astronomer; at Padua	91
	30.	HEIS, Edward, mathematician and astronomer; at Munster.	71
July	11.	BRYCE, James, LL.D., geologist; at Foyers, N.B.	70
	13.	MORIER, David, Diplomatist, formerly Her Majesty's Minister to the Swiss Confederation; at Montagu Square	93
	28.	HUNT, Rt. Hon. G. Ward, First Lord of the Admiralty; at Homburgh	52
	29.	WARREN, Samuel, Q.C., D.C.L., F.R.S., author, Master in Lunacy; at Manchester Square	69
	31.	BOUTELL, Rev. Charles, M.A., archæologist; at Portsdown Road	64
Aug.	3.	SMITH, George Townshend, organist of Hereford Cathedral; at Hereford	63
	4.	SEYMOUR, Henry Danby, late M.P. for Poole; at Brymore	57
	5.	KEIGHTLEY, Archibald, 39 years Registrar of the Charterhouse; at Charterhouse	
	8.	LOVETT, William, Chartist Leader; at 137, Euston Road	77
	9.	MARSH, Mrs. George (Virginia Gabriel), Composer; at St. George's Hospital	52
	13.	LONGMAN, William, publisher and author; at Great Berkhampstead	64
	16.	MANGLES, R. D., Member of the Council of India; at Montagu Street	75
	18.	LOCH, George, Q.C., Attorney General to the Prince of Wales; at Windsor	66
	20.	ROGERS, Rev. Henry, late Principal of the Lancashire Independent College; at Machynuett	70

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Aug.	28.	YOUNG, Brigham, leader of the Mormons; at Salt Lake	76
Sept.	3.	THIERS, Adolphe, statesman and author; at St. Germain	80
	7.	THOMAS, W. Meredyth, sculptor; at Buckingham Palace Road	57
	12.	RIETZ, Julius, composer and director of the Conservatory of Music at Dresden; at Dresden	65
	—.	CANARIS, Admiral, Prime Minister of Greece; at Athens	
	15.	COMPTON, Henry (Mackenzie), comedian; at Kensington	65
	23.	LE VERRIER, Urban Jean Joseph, astronomer; at Paris	66
Oct.	1.	MORIARTY, Right Rev. Dr., Bishop of Kerry; at Killarney	67
	3.	TIETJENS, Teresa, vocalist; at Finchley Road	43
	14.	ELWART, Antoine Elie, composer and musical critic; at Paris	69
	21.	SWINHOE, Robert, F.R.S., late Consul at Ningpo; at Carlyle Square	41
	22.	CROISET, G. E. C., Dutch novelist; at Amersfoot	59
	—.	TROWER, Right Rev. Walter J., D.D., late Bishop of Gibraltar, and formerly of Glasgow; at Ashington, Sussex	73
	27.	DURHAM, Joseph, A.R.A., sculptor; at Devonshire Street	58
	28.	HERBECK, Johann, operatic and orchestral conductor; at Vienna	46
	31.	SPALDING, Douglas Alexander, physiologist; at Dunkirk	33
Nov.	1.	VON WRANGEL, Count, Field-Marshal; at Berlin	93

NOTE.—The Necrological Table here given contains the names of 136 distinguished persons, of various countries, who died during the twelve months from November, 1876, to November, 1877. Of this number, 24, or 17 per cent., died at the age of 80 or more, and of these, six were upwards of 90, and one was 103 years of age.

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